JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NATIONAL ECONOMIC DEVELOPMENT AUTHORITY (NEDA)

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH)

PREPARATORY SURVEY
FOR
PUBLIC-PRIVATE PARTNERSHIP (PPP)
INFRASTRUCTURE DEVELOPMENT PROJECTS
IN
THE REPUBLIC OF THE PHILIPPINES

FINAL REPORT
MAIN TEXT

DECEMBER 2010

CTI ENGINEERING INTERNATIONAL CO., LTD.
MITSUBISHI RESEARCH INSTITUTE, INC.

EXCHANGE RATE

May 2010
1 PhP = 1.97 Japan Yen
1 US$ = 46.21 Philippine Peso
1 US$ = 90.85 Japan Yen

Central Bank of the Philippines

LOCATION MAP OF THE STUDY AREA

MAIN TEXT

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ACRONYMS AND ABBREVIATIONS

ADB	:	Asian Development Bank
B/C	:	Benefit/Cost Ratio
BCDA	:	Bases Conversion Development Authority
BLT	:	Build-Lease-Transfer
BOT	:	Build-Operate and Transfer
CAAP	:	Civil Aviation Authority of the Philippines
CDCP	:	Construction Development Corporation of the Philippines
CLEx	:	Central Luzon Expressway
DBFO		Design, Build, Finance and Operate
DBP	:	Development Bank of the Philippines
DENR	:	Department of Environment and Natural Resources
DBM	:	Department of Budget and Management
DOF	:	Department of Finance
DOTC	:	Department of Transportation and Communications
DPWH	:	Department of Public Works and Highways
DTI	:	Department of Trade and Industry
EIA	:	Environmental Impact Assessment
EIRR	:	Economic Internal Rate of Return
EIS	:	Environmental Impact Statement
EO	:	Executive Order
FIRR	:	Financial Internal Rate of Return
GDP	:	Gross Domestic Product
GFS	:	Government Financing Support
GOCCs	:	Government-Owned and Controlled Corporations
GOJ	:	Government of Japan
GRP	:	Government of the Republic of the Philippines
HSH	:	High Standard Highway
ICC	:	Investment Coordinating Committee
IEE	:	Initial Environmental Examination
IFC	:	International Finance Corporation of World Bank Group
IRR	:	Internal Rate of Return
JICA	:	Japan International Cooperation Agency
KOICA	:	Korean International Cooperation Agency
LAPRAP	:	Land Acquisition Plan and Resettlement Action Plan
LGUs	:	Local Government Units
LRTA	:	Light Rail Transit Authority
MARINA	:	Maritime Industry Authority
MRG	:	Minimum Revenue Guarantee
MIAA	:	Manila International Airport Authority
MMDA	:	Metro Manila Development Agency
MRT	:	Mass Rail Transit
MRTC	:	Metro Rail Transit Corporation
NCR	:	National Capital Region
NDC	:	National Development Corporation
NEDA	:	National Economic Development Authority
NGO	:	Non-Governmental Organization
NLEx	:	North Luzon Expressway
NPER	:	Net Public Expenditure Reduction
NPV	:	Net Present Value
O&M	:	Operation and Maintenance
ODA	:	Official Development Assistance
OSG	:	Office of the Solicitor General
PD	:	Presidential Decree
PEA	:	Philippine Estate Authority
PEGR	:	Philippines-Australia Partnership for Economic Governance Reform
PIP	:	Public Investment Plan
PMO-BOT	:	Project Management Office for Build-Operate-Transfer
PNCC	:	Philippine National Construction Company
PNR	:	Philippine National Railways
PPA	:	Philippine Port Authority
PPP	:	Public-Private Partnership
R.A.	:	Republic Act
RAP	:	Resettlement Action Plan
ROW	:	Right of Way
SC	:	Steering Committee
SCTEx	:	Subic-Clark-Tarlac Expressway
SLEx	:	South Luzon Expressway
SPC	:	Special Purpose Company
STAR	:	Southern Tagalog Arterial Road
STOA	:	Supplemental Toll Operation Agreement
TCA	:	Toll Concession Agreement
TOA	:	Toll Operation Agreement
TOC	:	Toll Operation Certificate
TOR	:	Terms of Reference
TPLEx	:	Tarlac-Pangasinan-La Union Expressway
TRB	:	Toll Regulatory Board
TWG	:	Technical Working Group
USAID	:	United States Agency for International Development
WACC	:	Weighted Average of Capital Cost
WB	:	World Bank

CHAPTER 1

INTRODUCTION

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INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Since the Asian Currency Crisis in 1997, the Philippine Government has been suffering higher financial deficit than before. The Government has been making efforts to improve the financial situation of the country. Reduction of infrastructure investment was one of the measures adopted which brought about slowed-down infrastructure development. Slow development of infrastructure is now seriously affecting sound development of the country's economy.

Since the enactment of the BOT Law (R.A. No. 7718) in 1994, which aims to enhance the Public Private Partnership (PPP) projects, many PPP projects were proposed, however, many of them were not realized due to lack of fund, unclear risk allocation between the Public and the Private sector, difficulty of ROW acquisition, improper toll fee setting, etc.

The current administration is now focusing on the transport infrastructure development; however, it requires huge investment. Under the current financial condition of the country, the Government's fund alone is not sufficient to properly finance transport infrastructure projects, thus the Government is pursuing the participation of Local Government Units (LGUs) and the private sector in the transport infrastructure projects. In line with this policy, the Government is planning to review and amend the present BOT Law, if necessary, to attract more participation of the Private Sector.

The Government of Japan has been providing technical assistance for PPP projects, particularly for feasibility studies and legal/institutional development; however, no PPP project was implemented under the Japanese Government's financial assistance.

Under the above circumstances, needs to formulate priority projects which involve both private and ODA financing are quite high. At the same time, there are needs to identify bottlenecks in the implementation process of PPP projects and to recommend possible solutions to eliminate bottlenecks for effective and accelerated development of transport projects.

This Study aims to identify all bottlenecks in the process of implementation of PPP projects and to select priority infrastructure development projects to be implemented by PPP scheme with ODA funding and to prepare draft road map for each project to realize its implementation to promote PPP infrastructure development projects in the Philippines.

This Study is placed as phase 1 survey. Subsequent Study will conduct a feasibility study of the candidate project(s) selected in this Study.

The target sector of the Study is mainly "road" because of the large number of candidate projects under this sector and the high necessity of ODA as fund source.

1.2 OBJECTIVE OF THE STUDY

The objectives of the Study are as follows:

(1) Review and synthesize the current situation and issues surrounding PPP infrastructure development activities and assessment of needs of technical supports.

(2) Screen and list up high priority road projects, which shall utilize PPP scheme.

(3) Preparation of draft road map for PPP road projects with possible Japanese ODA loan.

1.3 STUDY AREA

The Study covers the whole area of the Philippines.

1.4 SCOPE OF THE STUDY

In order to achieve the above objectives, the Study covered the followings:

(1) Presentation and Discussion of Inception Report
(2) Review and Analysis of Current Status and Issues of the Transport Sector
(3) Review and Analysis of Current Status and Issues of PPP Projects in Transport Sector
(4) Screening of the Candidate PPP Road Projects and Selection of the Priority PPP Road Projects
(5) Preparation of Road Map for PPP Project Implementation and Demarcation of Responsibility and Role of the Related Organizations
(6) Assessment of Needs of Technical Supports and Recommendation
(7) Presentation of and Discussion of Draft Final Report
(8) Preparation and Submission of Final Report

1.5 SCHEDULE OF THE STUDY

The Study commenced in February 2010 and completed by the end of November 2010 as shown in **Table 1.5-1**.

TABLE 1.5-1 STUDY SCHEDULE

Work Item	2010										
	2	3	4	5	6	7	8	9	10	11	12
[1] Preparation and Discussion of IC/R											
[2] Review and Analysis of Current Status and Issues of the Transport Sector											
[3] Review and Analysis of Current Status and Issues of the PPP Projects of the Transport Sector											
[4] First Screening of the Candidate PPP Road Projects											
[5] Second Screening of the Candidate PPP Road Projects and Selection of Priority Road Projects											
[6] Preparation of Draft Road Map for PPP Project Implementation and Defining of the Responsibility and Role of the Related Organizations											
[7] Assessment of the Needs of Technical Supports and Recommendation											
[8] Preparation of and Conduct of Pilot Training											
[9] Preparation of the DF/R											
[10] Discussion of the DF/R											
[11] Preparartion of the Final Report											

Legend: ■ Work in the Philippines
▭ Work in Japan
△ Presentation of Report

1.6 ORGANIZATION TO CARRY OUT THE STUDY

The Study was carried out by a Study Team organized by the JICA in close collaboration with NEDA, DPWH and other organizations concerned.

The Steering Committee (SC) was organized by NEDA and DPWH to ensure the smooth conduct of the study and to review and oversee its progress.

Chairperson:	
Ms. Maria Catalina E. Cabral, PhD	Assistant Secretary for Planning Service & PPP, DPWH
Vice- Chairperson:	
Mr. Ricardo N. Bamero, Jr.	PMO FS, DPWH
Members:	
Dir. Bienvinida Firmalino	(SC Member) PMO-BOT, DPWH
Dir. Melvin B. Navarro, MNSA	(SC Member) Planning Service, DPWH
Dir. Criste Navida, PhD	(SC Member) Project Manager IV, ESSO, DPWH
Dir. Patrick Gatan	(SC Member) Project Director, IROW, DPWH
Dir. Remios G. Belleza	(SC Member) PMO – TEAM, DPWH
Dir. Manuel Imperial	(SC Member) TRB, DOTC
Mr. Kenneth Tanate	(SC Member) Assistant Director, NEDA
Mr. Kenji Hasegawa	JICA Road Planning & Management Advisor
Mr. Kazumasa Atarashi	JICA Road Planning & Management Advisor

The Technical Working Group (TWG) was established to assist the SC as well as monitor and make advices on the progress of the Study.

Chairperson:	
Dir. Bienvinida Firmalino	PMO-BOT, DPWH
Members:	
Engr. Rebecca T. Garsuta	(Vice-chairperson) PMO-BOT, DPWH
Engr. Carmelino J.C. Tizon	(Member) PMO-FS, DPWH
Engr. Carolina Canuel	(Member) Planning Service, DPWH
Engr. Ignacia Ramos	(Member) ESSO, DPWH
Engr. Rey Alano	(Member) PMO-BOT, DPWH
Mr. Sonny Macasil	(Member) IROW, DPWH
Engr. Jonathan L. Arcullo	(Member) PMO-TEAM, DPWH
Engr. Carolyn A. Leyesa	(Member) PMO-TEAM, DPWH
Mr. Pablito M. Abellera	(Member) NEDA
Engr. Juliet Turingan	(Member) TRB, DOTC

The Study Team was composed of the followings:

Mr. Mitsuo KIUCHI	Team Leader/ PPP (Policy and Structure Analysis)
Mr. Mikio OKANO	PPP (Financial Scheme)
Dr. Primitivo C. CAL	Deputy Team Leader/PPP (Law and Regulation)
Dr. Yoichi SAKURADA	Deputy Team Leader/Financial Analysis
Mr. Ryuichi UENO	Road Planning
Ms. Annabelle N. HERRERA	Environmental and Social Consideration

The Study Team was assisted by Mr. Teodoro Encarnacion and Atty. Wilfredo Trinidad of Transport and Traffic Planners, Inc., who provided Support Services for PPP Project Formulation.

1.7 FINAL REPORT ORGANIZATION

The following reports were prepared by the Study Team and were submitted to the DPWH.

- Executive Summary
- Main Text
- Annexes
- Pilot Training Materials

1.8 MEETINGS

The following meetings were held during the course of the study:

Kick-off Meeting: March 12, 2010

Technical Working Group (TWG) Meeting

- July 20, 2010 - First Technical Working Group (TWG) Meeting
- August 26, 2010 - Second Technical Working Group (TWG) Meeting

Steering Committee (SC) Meeting

- July 23, 2010 - First Steering Committee (SC) Meeting
- September 3, 2010 - Second Steering Committee (SC) Meeting

Stakeholders Meeting

- July 30, 2010 - First Stakeholders Meeting
- September 6, 2010 - Second Stakeholders Meeting

First Stakeholders Meeting

First Stakeholders Meeting (Q & A Session)

Second Stakeholders Meeting

Second Stakeholders Meeting (Q & A Session)

CHAPTER 2

PRESENT CONDITION OF TRANSPORT SECTOR

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PRESENT CONDITION OF TRANSPORT SECTOR

2.1 SOCIO-ECONOMIC CONDITION OF THE COUNTRY

In this chapter, socio-economic conditions of the country in terms of Gross Domestic Product (GDP) and Gross Regional Domestic Product (GRDP) are reviewed. Likewise, condition of national budget is assessed. This assessment includes recent trend of fiscal condition, historical overview, concerned agencies and their responsibility.

2.1.1 Overview of the Macroscopic Economic Condition

(1) GDP in the Philippines

1) GDP by each Sector

GDP in the Philippines is 7,423 billion peso as of 2008, and the share of GDP in each sector is 15% for Agriculture, Fishery and Forestry sector, 32% for Industry sector and 53% for Service sector. Comparing to 1994, as of 2008, GDP in Agriculture, Fishery and Forestry sector has grown up to 3 times, while Industry sector is 4.3 times and Service sector is 5.2 times.

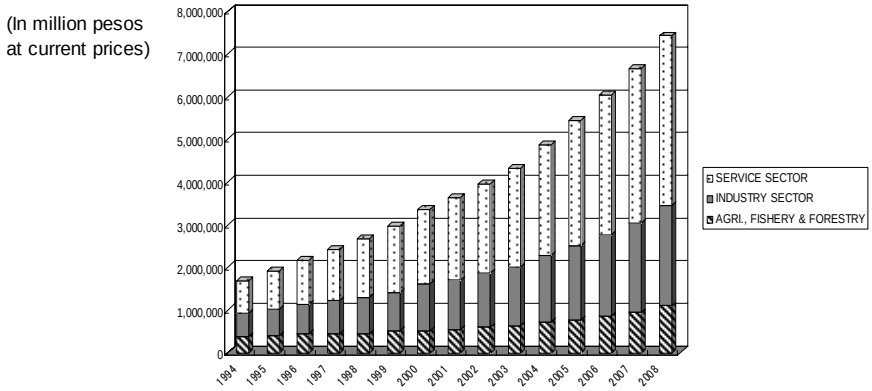


FIGURE 2.1.1-1 TREND OF GDP IN EACH SECTOR

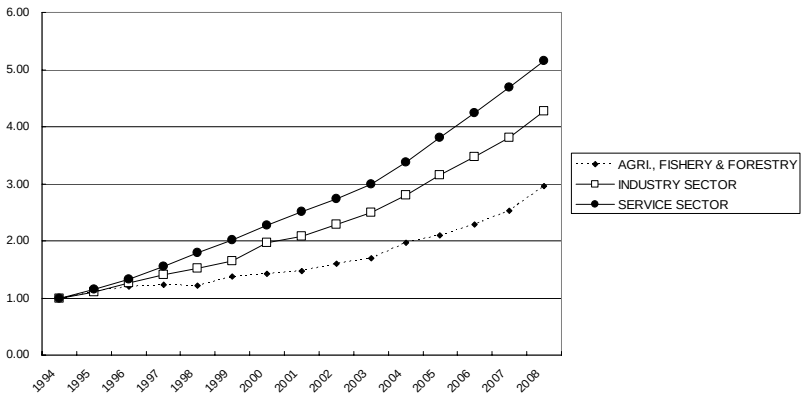


FIGURE 2.1.1-2 ANNUAL GROWTH RATE OF GDP IN EACH SECTOR
(value in 1994 is set as base value of 1.0)

2) Per capita GDP and Per capita Personal Consumption Expenditure

Per capita GDP in the Philippines in 2008 is 82,000 peso, while per capita Personal Consumption Expenditure is 58,400 peso, of which share of per capita GDP is as high as 71%. Comparing to 1994, as of 2008, per capita GDP has grown up to 3 times. Growth rate of per capita Personal Consumption Expenditure is almost same as per capita GDP.

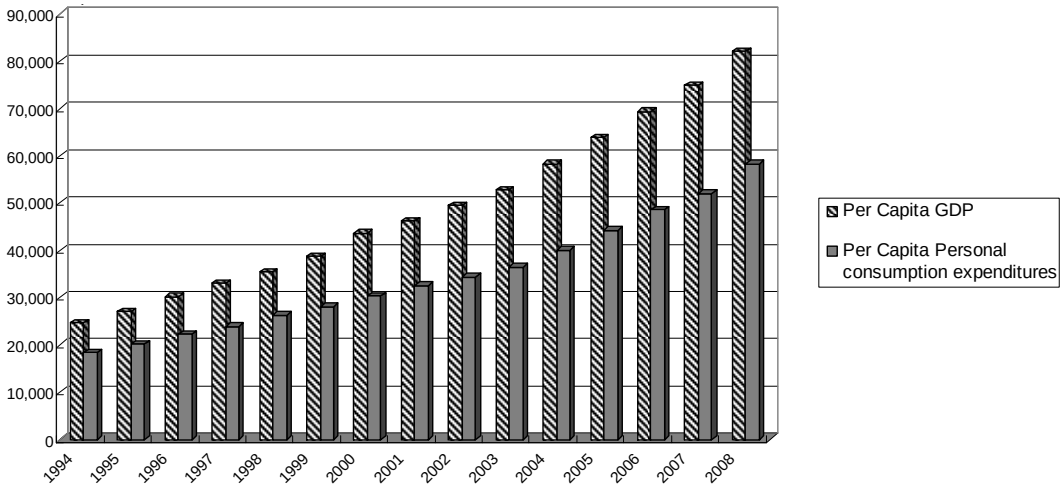


FIGURE 2.1.1-3 TREND OF PER CAPITA GDP AND PER CAPITA PERSONAL CONSUMPTION

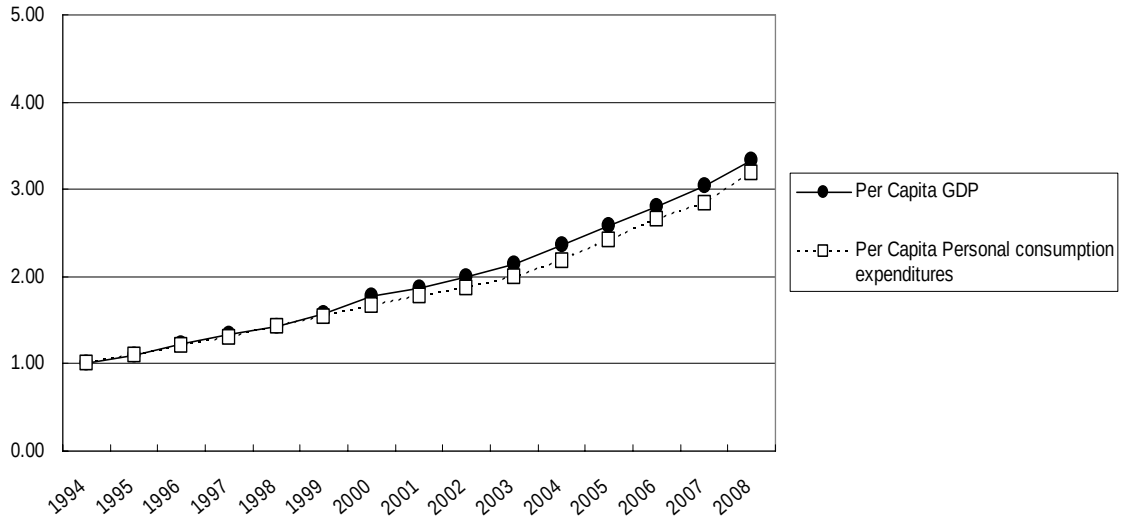


FIGURE 2.1.1-4 ANNUAL GROWTH RATE OF PER CAPITA GDP AND PER CAPITA PERSONAL CONSUMPTION
(the value in 1994 is set as base value of 1.0)

(2) GRDP in the Philippines

Gross Regional Domestic Product (GRDP) is shown in each of the following regional areas which is consist of 17 regions. The figure below shows the regional administrative map of the country.

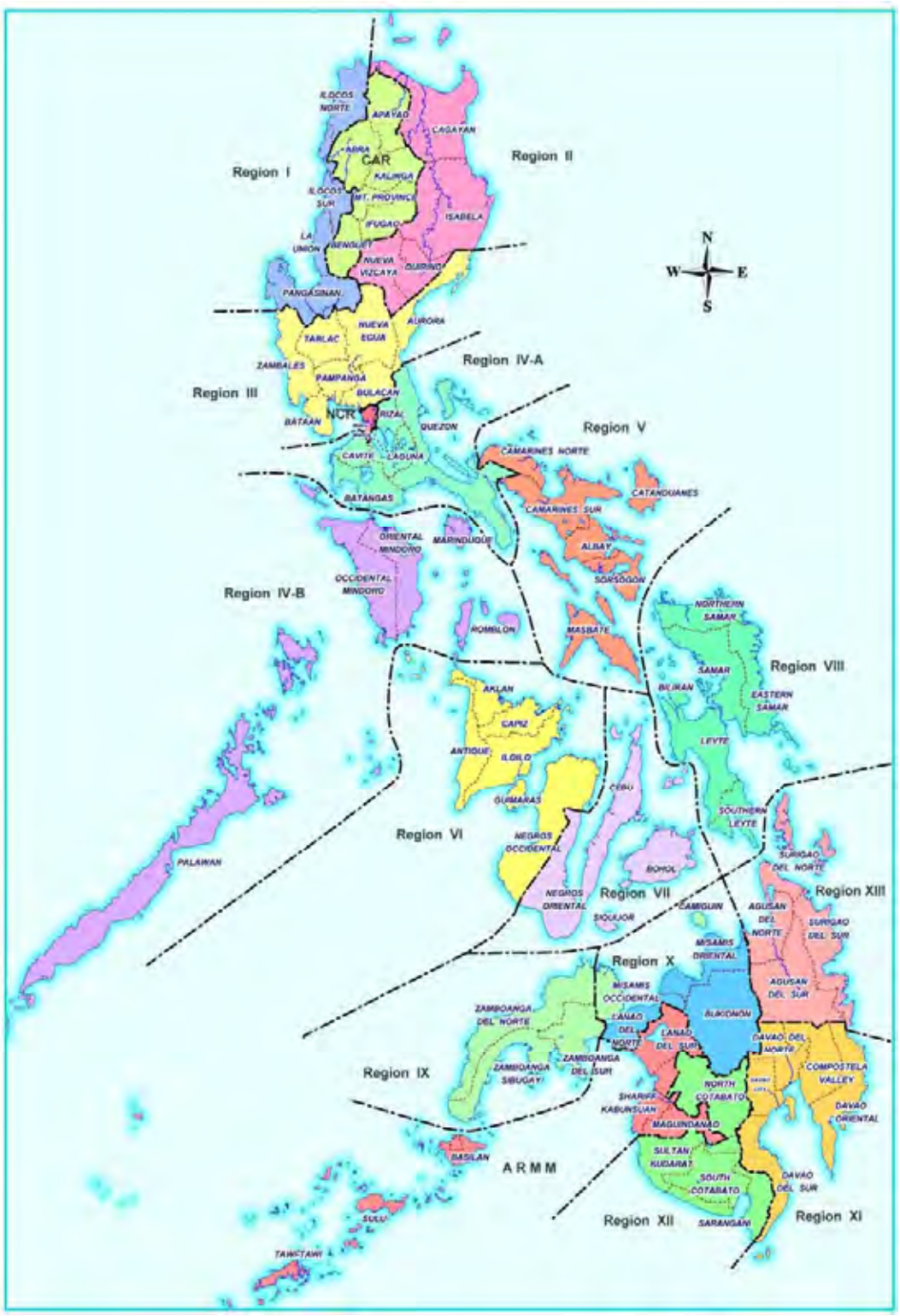


FIGURE 2.1.1-5 REGIONAL ADMINISTRATIVE MAP OF THE PHILIPPINES

The largest GRDP can be seen in National Capital Region (NCR), that is, Metro Manila region, of which the value is 2,750 billion pesos. And the smallest GRDP is in Muslim Mindanao region (ARMM), of which the value is 63 billion pesos. On the other hand, the largest growth rate of GRDP can be seen in region XII (SOCCSKSARGEN), of which value is 14.6%, followed by region X (Northern Mindanao), of which value is 14.3%. Growth rate of NCR is 11.2%.

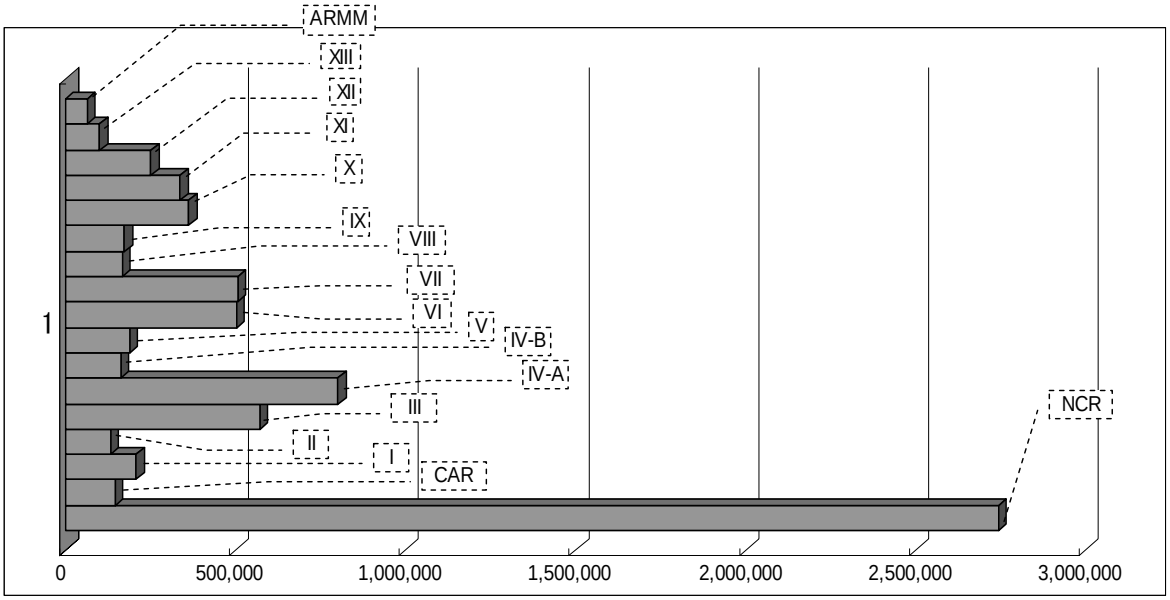


FIGURE 2.1.1-6 GRDP PER REGION IN 2008
(IN MILLION PESOS AT CURRENT PRICE)

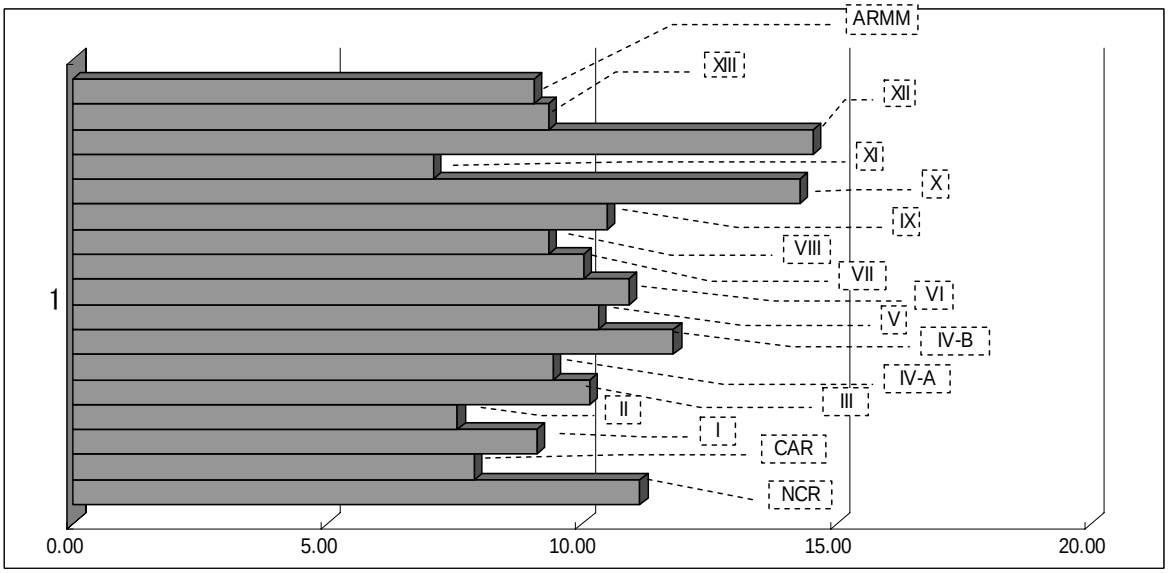


FIGURE 2.1.1-7 ANNUAL AVERAGE GROWTH RATE OF GRDP
(FROM 2000 TO 2008)

2.1.2 Overview of the National Government Budget

The issues related to National Government Budget of the Philippines are caused by enormous amount of fiscal deficit increased ever since the latter half of 1990s as shown in graph below. Both revenues and expenditures are the factors of this fiscal deficit respectively. As for expenditures, there is increase in public debt triggered from deteriorated fiscal conditions of public corporations. In other words, deterioration of fiscal conditions of public corporations including National Power Corporation (NPC) and increase in expenditures of central government are bringing down the increase of public debt. As for revenues, on the other hand, collection of the taxes including income tax is not carried out efficiently, resulting in insufficient tax revenues which can go beyond the amount of expenditures.

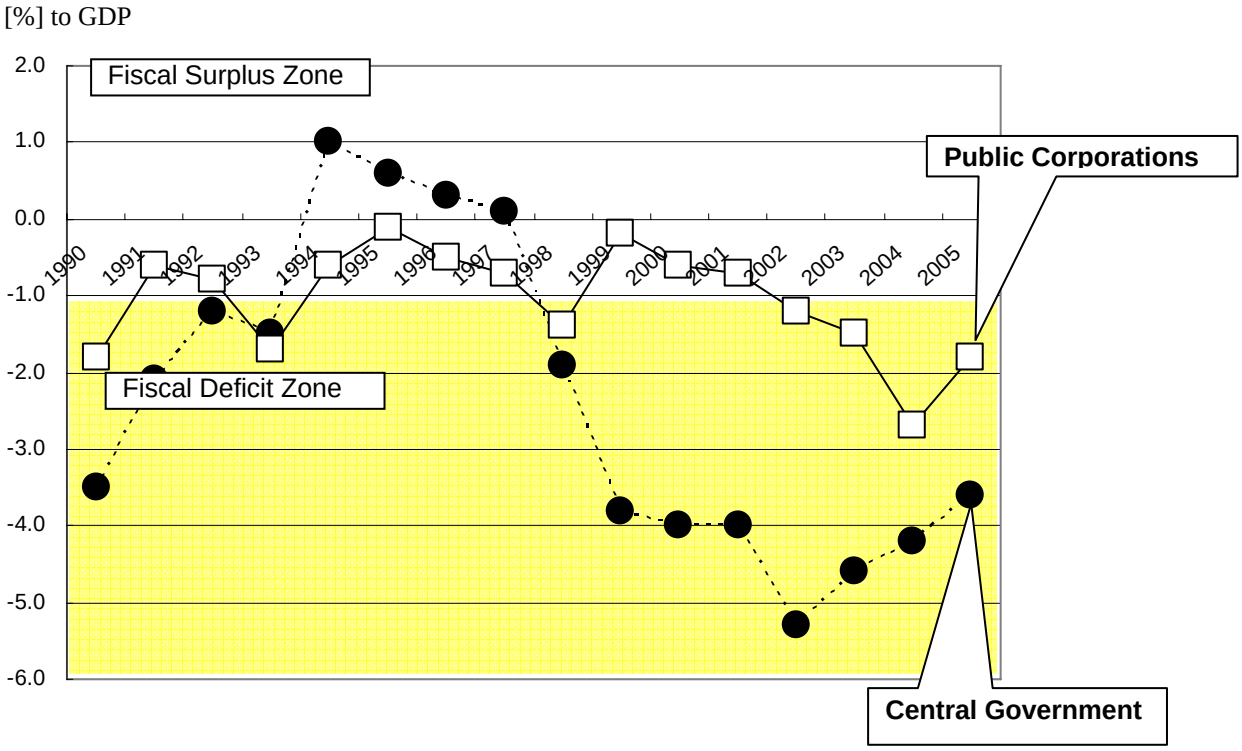


FIGURE 2.1.1-8 TREND OF THE FISCAL SURPLUS (DEFICIT) OF THE CENTRAL GOVERNMENT AND THE PUBLIC CORPORATIONS

Hereafter, a review to the movement of National Government Budget in chronological order from 1990s up until today is carried out.

(1) Historical Overview

1) 1990s

When reviewing the deficit issues of public corporations which caused the fiscal deficit of National Government Budget, especially of the National Power Corporation (NPC), we have to go back to the beginning of 1990s. Back in those days, in Luzon Island, in which metro area is located, people had been suffered from severe shortage of electrical power supply. In this circumstance, Ramos administration was forced to have rehabilitation of aging power station and construction of brand new power station. So as to succeed it, they had no option but rely on foreign capital which had enough financial power and technical skill. In order to

attract foreign capital, the Philippines government developed the policy saying that the government aims significant risk reduction of the businesses and the government itself bears these risks if occur. And then, NPC was established as the public corporation under such policy. NPC concluded power purchase agreements with up to 30 foreign-capitalized Independent Power Producers, and these contracts were based on "take-or-pay arrangement" scheme. NPC paid capacity fee to IPP as lease fee and also compensated the fuel costs. Moreover, all the contracts were quoted in dollar and NPC bore the foreign exchange risks. Under such contract scheme, the balance sheet of NPC had been deteriorated severely, leading to tight national government budget.

Issues with NPC were just related to power sector, yet many other sectors had such similar issues. In 1990s, many private companies started to get into businesses, such as power businesses, water businesses, expressway businesses, et al, under BOT scheme. The Government promoted such businesses which carried out by private sectors and then granted various types of state guarantees for them. Some of examples are stated below.

- Government guarantee for ROW
- Government guarantee for securing minimum income
- Government guarantee for fluctuation in exchange
- Government guarantee for the business revenues in the event of force majeure

Such hospitable government guarantee had increased the public fiscal expenditures and resulted in increased public debt. In addition, the contingent liabilities had also been paid closer attention, as the government should bear it from such guarantees stated above.

2) 2000s

For the improvement of the fiscal deficit, the Philippines government started to reform power sector. In 2001, the law (Republic Act No.9136) related to power industry had been enacted. This law stated the measures below.

- Privatize NPC, the public corporation.
- Liberalize whole power generation market and establish wholesale electricity market
- As for power transmission, establish electrical transmission company called Transco and consign its operations to private company
- All the assets and debts managed by NPC are to be transferred to PSALM, new established management company

With theses measures, the deficit of National Government Budget began to be contracted gradually. Moreover, reform of the revenues was also implemented by having additional taxation items of Value Added Tax (VAT) as well as increase in tax rate as of 2006.

3) Resolution of fiscal deficit

Through series of measures stated above, fiscal deficit is being reduced. In monthly treasury budget of November 2007, surplus of 54.1 billion peso (approximately 1.3 billion USD equivalents) was posted. Still more, treasury budget of January through December has also achieved to have surplus of 12.6 billion peso after 10 years.

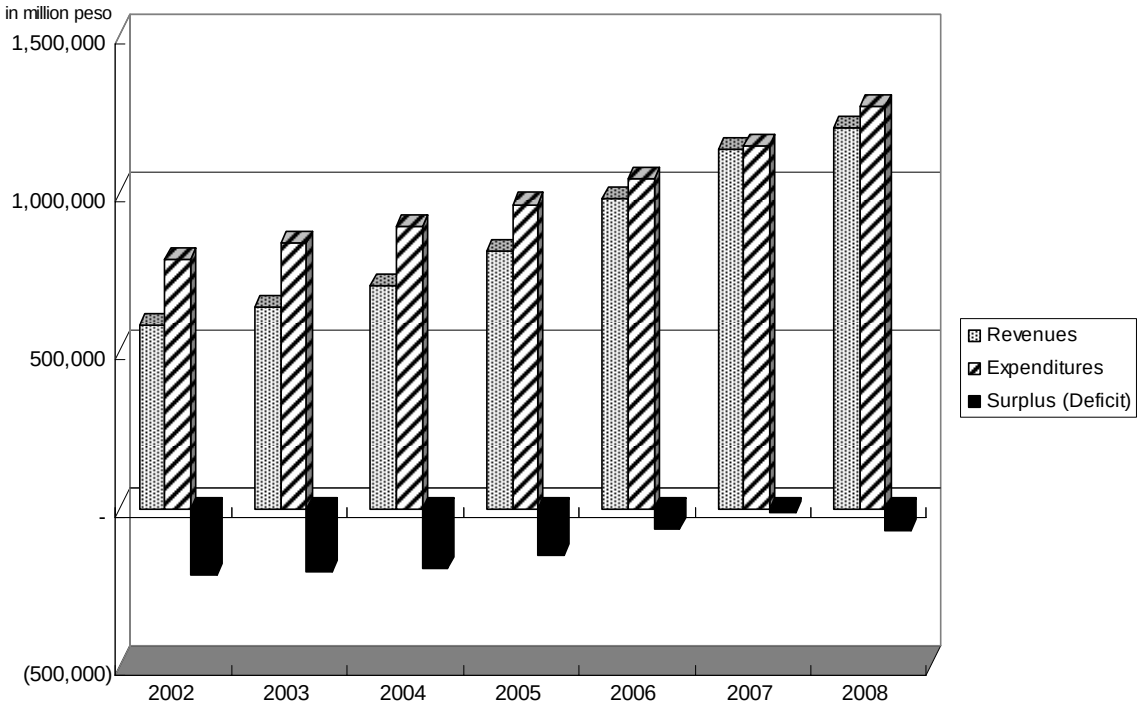


FIGURE 2.1.1-9 TREND OF THE PUBLIC REVENUE, EXPENDITURE AND FISCAL SURPLUS (DEFICIT)

(2) Structure of the National Government Budget

1) National Revenue

Tax revenue including income tax and value added tax accounts for approximately 85% of total revenues of the National Government Budget. Non-tax revenue accounts for about 15%, and grant accounts for only 0.01% of the total. The annual average growth rates in 5 years from 2004 through 2008 are 15% per year for tax revenues, 11% per year for non-tax revenues, and 14% per year for grants.

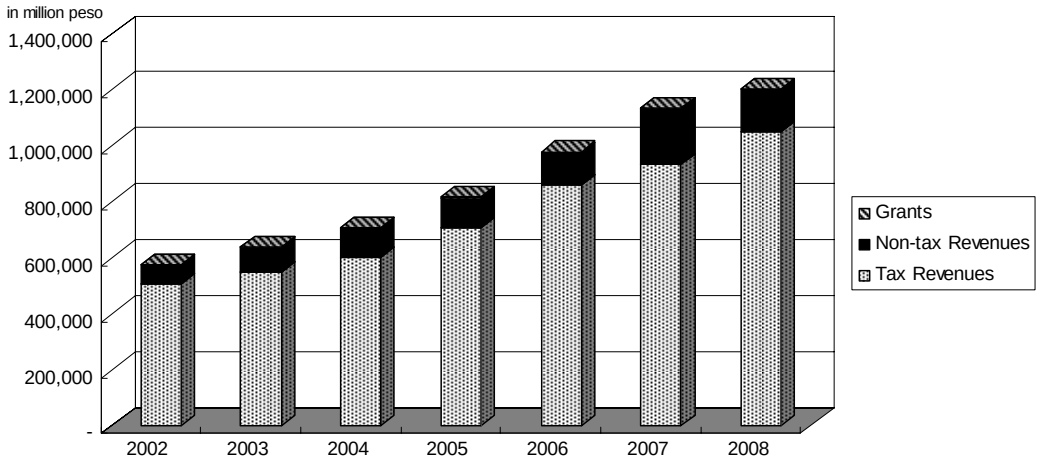


FIGURE 2.1.1-10 TREND OF THE PUBLIC REVENUE AND ITS COMPOSITION

2) National Expenditure

The fixed cost including personal services is the highest constituent of the expenditures of National Government Budget and accounts for approximately 31% of the total. This is followed by approximately 24% of personal service, 22% of transfer payment including subsidies, and then 12% of capital outlay for the maintenance of infrastructure.

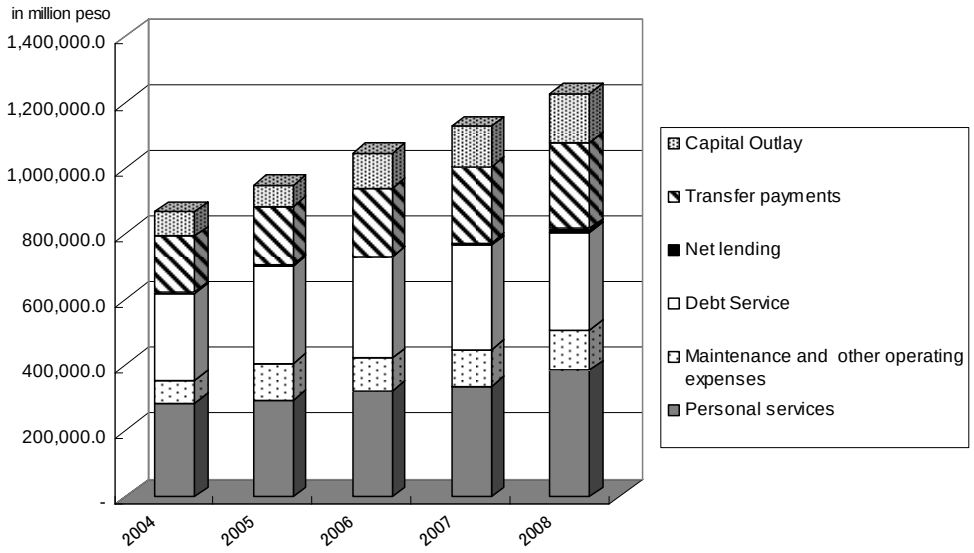


FIGURE 2.1.1-11 TREND OF THE PUBLIC EXPENDITURE AND ITS COMPOSITION

3) Agencies concerned

The key agencies involved in public financial management are:

(a) Department of Budget and Management (DBM).

The DBM is responsible for formulation and implementation of the national government budget. It coordinates preparation of the president's budget proposal based on submissions from the line departments and agencies and controls budget execution through its authority to release allotments and cash allocations to spending units. Besides, the DBM oversees the procurement service as its attached agency.

(b) Department of Finance (DOF).

The DOF is in charge of the government's fiscal policies and management of its financial resources overall. Among the DOF's key functions are oversight of the main revenue administration agencies, the Bureau of Internal Revenues (BIR) and the Bureau of Customs (BOC) and management of the government's cash resources and public debts through the Bureau of Treasury (BTr). The BTr coordinates with the DBM in determining the allowable cash disbursements by the agencies during budget execution (reflected in cash allocation releases of the DBM). In addition, the DOF supervises selected Government Owned and Controlled Companies (GOCCs) and fiscal and financial affairs of Bureau of Local Government Finance (LGUs).

(c) National Economic Development Authority (NEDA)

NEDA's primary responsibilities are to formulate the Medium-term Philippine Development Plan (MTPDP), the Medium-term Public Investment Programs (MTPIP) and corresponding annual plans and programs and to coordinate programming of official development assistance.

(d) Commission on Audit (COA)

COA is constitutionally responsible for external audit of all government entities, for mandating an accounting and auditing framework, and for the issue of the Annual Financial Statements of Government.

2.2 REVIEW OF DEVELOPMENT PLANS

The below related studies and government plans were reviewed:

a.) Developing a Methodology and Framework for National Transport Policy and Planning (2008)
b.) Formulating National Transport Plan (2010)
c.) Study of the Masterplan on High Standard Highway Network Development (2010)
d.) DPWH Medium-Term Public Investment Program (2011-2016)

2.2.1 Developing a Methodology and Framework for National Transport Policy and Planning (NTPP)

This Study was undertaken in 2008 under the Philippines-Australia Partnership for Economic Governance Reforms (PEGR) under Reform Agenda (RA) 008-01. The highlights of the Study, particularly the portions relating to the road sub-sector, are summarized below.

Activity 1: Synopsis of past planning exercises with a view to deriving lessons learned from previous policy and planning work.

Activity 2: Assessment of institutions involved in the planning, provision, and operation of infrastructure and transport services.

Activity 3: Preparation of recommendations for future planning concepts and methodology considering experience in the Philippines and other countries.

(1) Summary of Activity 1 Findings

A. Master Plans

Strategic master plan studies have contributed to high level national development planning. Recommended priority projects have entered the MTPDPs, which was a precondition for, but did not necessarily ensure, subsequent implementation. The policy and institutional recommendations from the studies were similar.

B. Transport Policy Areas

- Resource allocation to the entire transport sector and to individual transport modes; asset expansion and preservation
- Pricing and subsidies

- Competition, regulation, and enforcement
- Role of government versus that of the private sector
- Institutions and their responsibilities and capabilities
- Service delivery and accountability.

C. Transport Studies

C-1 Inter-modal Transport

Several studies centered on inter-modal RORO transport reflecting the momentum over the last five years. The studies have not adequately addressed the risks in RORO. If road quality and traffic conditions fail to ensure that time savings can be realized, RORO would have little economic merit. The planning approach in the studies was top-down, rather than relying on private initiatives.

C-2 Road Sub-Sector

Studies pointed to a high level of technical planning capabilities and skills in DPWH. The national road master plan studies used planning concepts and techniques that conform to best international practices. Their recommendations were, however, rarely fully reflected in the annual budgets. A large part of the budget was allocated to road projects unrelated to national strategies. Some 20–30% of the DPWH budget was earmarked for local projects identified by members of Congress which, while responding to community needs, were not aligned with national strategies. The disconnection between planning and budgeting has diminished the relevance of the studies.

Some of the road studies recommended the creation of a fund for road maintenance. The recommendation was implemented haphazardly. The rationale for having a road fund, which is to ensure steady maintenance funding, was not fully attained.

C-3 Public-Private Partnership

Several road studies focused on greater private sector involvement in both road maintenance and construction and financing. Among the notable outcomes was the introduction of annual performance-based maintenance contracts as one form of PPP. With regard to construction, financing and operation, the key concern is the continued absence of an adequate planning and procurement framework. Past PPPs were mostly initiated through unsolicited proposals, without competitive checks. Unsolicited proposals escape a proper planning process and may, therefore, have a poor fit with development strategies. Project preparation should be shifted from private proponents to government planning agencies.

D. Key Issues

D-1 Relevance of Planning

Transport strategies and plans have lost some of their former relevance for shaping the development of the transport sector. An increasingly smaller number of projects identified by master plans and sometimes even prepared by more detailed studies has made it through the planning processes to budgets and final implementation. Undue political interference broadly explains this phenomenon. The range of eligibility criteria for the inclusion of proposed investment projects in medium-term plans has become too broad to achieve a strategic focus. This has also facilitated the observed political influence in

project selection and divergence from strategic objectives. On the other hand, the medium-term planning process does not appear to be well aligned with annual budgets.

D-2 Unfinished Reform Agenda

The backlog of policy and institutional reforms is in areas with vested interests, where entrenched property rights are likely to be affected by reforms. Reforms are difficult, when they require a redistribution of wealth. The situation is made more complex by a capricious legal environment. The traditional study approach has not been successful to address this constraint.

The allocation of funds to the transport sector and among the transport sub-sectors has been a long standing issue. The issue is aggravated by allocating financial resources to projects that have not been included in the various stages of the planning process. Financing of road maintenance is an unfinished reform item, with the fuel levy still to be introduced in Congress.

Resource allocations are not optimized in relation to needs. Strategic plans and planning tools available are not fully used to meet this purpose. Hence, many projects – viable and less viable - are not mainstreamed into the strategic process.

D-3 Transport Database

Transport database systems were mostly generated by various transport studies in the past five years. These data have not been fully incorporated into the agency database systems. Inter-agency cooperation should be pursued with DOTC and DPWH playing lead roles in the specification and management of the National Transport Database System.

(2) Summary of Activity 2 Findings

DOTC is at the apex of transport planning and policy formulation covering all modes, except road infrastructure, and should take a lead role to identify the strategic needs of transport infrastructure and services for the country. Strategic inter-modal transport planning has been absent from DOTC. Building capacity at DOTC is essential if integrated strategic transport planning is to be effective.

NEDA appraises, monitors, and coordinates public investments in the sector and has an advisory and coordinating role in the formation of sector policies.

DPWH is responsible for the planning, construction, and maintenance of the national road network. DPWH has started to use a new Highway Planning Manual which covers all stages – i.e., strategic analysis, long-term planning, multi-year planning, and annual programming for national roads, and integrating asset preservation and network development for national roads. The DPWH planning process has been strengthened by modern IT-based planning and programming systems based on needs and objective technical and economic criteria. Despite these, DPWH still faces some problems hampering its performance, as follows:

- Interface frictions between roads and other transport modes
- Significant disconnect between planning/programming and budgeting
- Low level of funding in relation to road maintenance and construction needs
- Inadequate use of planning and programming tools
- Unabated conversion of unqualified local roads into national roads
- Strained absorptive capacity and program/project implementation.

Much of the investment in infrastructure is piecemeal, being directed largely by political dictates often at the local level. This does not contribute to developing a network approach to transport and, thus, the significant economic and social benefits gained by 'connectivity' are not being attained in the country.

(3) Summary of Activity 3 Conclusions and Recommendations

A. Transport Sector Institutions

The institutional landscape, as well as transport planning, is highly atomized, with too many agencies and too many planning exercises that are poorly connected.

DOTC, as the apex department for transport policy, planning, and coordination, does not play its role effectively. NEDA, as the planning and investment coordinator, has been undermined by activities bypassing the prescribed process.

B. Development of a Framework for National Transport Policy and Planning

This could be done following the Coordinated Incremental Planning process:

- Preparation of the transport development plan will be carried out by each transport agency, but guided and coordinated by referring to the Transport Policy Document prepared by DOTC.
- The development strategy should focus on addressing existing problems and deficiencies in the system.
- The framework should enable long-term planning.
- The framework should incorporate a Transport Expenditure Assumption (TEA), the resource envelope that can realistically be expected.
- Programs and projects should explicitly consider contributions from the private sector under PPP arrangements as part of the financing strategy.

A framework consisting of (1) Policy Formulation; and (2) Agency Transport Planning, would satisfy those requirements. The first part would provide the direction for transport development and establish boundary conditions that would guide the formulation of strategies. The second part would be the actual planning undertaken at the level of the line agencies.

The proposed Agency Transport Planning Process and the generation of transport strategies commence from a base plan that incorporates committed and pipeline projects arising from the preceding medium-term plan. Existing long-term plans, special studies and plans of LGUs provide support in the identification of possible projects. The TEA should include a forecast of available funds through potential PPPs in addition to those from traditional financing sources.

The recommended process strongly emphasizes linking planning to programming and budgeting, as well as to monitoring and evaluation. The latter is important because it will steer the implementation of the medium-term plan towards the transport development direction as articulated in the transport policy framework.

DOTC should coordinate and integrate the modal plans prepared by the line agencies. The outcome would be the MTPIP, which will be forwarded to the NEDA Infrastructure Committee for adoption. This would ensure that the plan of each agency is consistent with

the development goals of the government, in general, and the vision and policies of the transport sector, in particular.

C. Proposed National Transport Policy Framework

C-1 Transport Policy Objectives

DOTC should formulate a coherent set of transport policy objectives consistent with a common transport vision. The objectives are specific high-level statements which would give direction to the development and management of the facilities and services of the national transport system.

C-2 Performance Indicators and Targets

DOTC should establish performance indicators and targets to enable performance monitoring of progress towards defined objectives.

C-3 Policy Framework

DOTC should establish a set of criteria to evaluate and select the preferred transport policies from a menu of policy options. DOTC must ensure the participation of key transport stakeholders in all stages of transport policy making.

The Transport Policy Statement should contain the following core policies:

- Free Market: Transport services generally left to the private sector.
- Competition: Encouraged within transport modes and among modes
- Regulation: Limited economic regulations, and emphasis on technical regulations on safety, quality of service, and environmental impact.
- Pricing and cost recovery: Adoption of "user pays" principle for cost recovery applied where appropriate – toll roads, bus fares, freight rates, etc.
- Government role: Infrastructure provision, policy and strategy formulation, overall sector planning, safety and environmental regulations, and research.
- Asset management: Making best use of existing transport assets before considering additional investments; adequate funding for asset preservation.
- Least cost mode/route: Allocation of traffic to least cost mode/route as underlying aim of a welfare maximizing transport system.
- Investment analysis: Investments should be economically viable, and preferably financially viable. Investment plans should be based on a realistic extrapolation of the existing traffic situation.

D. Proposed Transport Planning Methodologies

While the planning steps are the same for each transport agency, the treatment of each step varies. For example, the DPWH planning methodology is more complex given the magnitude and wide coverage of the national road network.

The proposed methodology for national roads would build on and enhance the advanced road planning system already in place in DPWH. National roads planning would be driven by the overarching National Transport Policy Framework, and thus be coordinated with the other transport modes. National roads planning would be process-based and needs-oriented at all stages – strategic analysis, long-term scenario building, medium-term planning and multi-year and annual programming and budgeting. The process would make

good use of modern planning and programming tools rooted in technical and economic criteria to ensure optimal allocation of resources for road investments and maintenance works. The method employs joint planning for the dual needs of road network development and asset preservation. The systems and techniques can be applied to the entire national road network and sub-networks/corridors at both network and project levels. The proposed methodology incorporates the planning of toll expressways as part of the entire national roads system.

E. Oversight of Agency Transport Plans

DOTC, as the agency tasked with transport policy formulation and plan coordination, should exercise direct oversight over the line agencies. It should endorse to the NEDA Infrastructure Committee (Infracom) the agency transport plans for approval. This will be undertaken with DPWH as partner in the transport plan integration. The NEDA Inter-Agency Technical Committee on Transport Planning (IATCTP), as a technical arm of the NEDA Infracom, should coordinate physical development and transport-related planning studies, and review plan implementation issues.

F. Transport Database Framework

Crucial to the policy formulation and plan integration of DOTC in partnership with DPWH is a national transport database system. The decision of DOTC and DPWH to share transport data, including their Geographic Information Systems, will provide the platform for establishing the national transport database system.

(4) Next Steps and Work Plan

Following the approval by the NEDA Infrastructure Committee in July 2009 of the main recommendations of the NTPP (RA008-01), the next step is embodied in NTPP Phase 2 under PEGR RA 008-02) which will be undertaken from September 2009 to February 2010. This will involve the following activities:

Activity 1: Formulating a draft National Transport Policy Framework (NTPF) and draft National Transport Plan (NTP) as input to the next Medium-Term Philippine Development Plan (MTPDP).

Activity 2: Preparation of a Draft Transport Policy Act.

Activity 3: Streamlining of DOTC Organization and Capacity Building of its staff.

2.2.2 Formulating a National Transport Plan (NTP)

The Australian Agency for International Development (AusAID) - funded National Transport Policy and Planning Study (NTPPS), completed in February 2009, recommended a two-tier approach to national transport planning. The first tier is concerned with policy formulation and the second with transport planning of the transport agencies. The National Transport Policy Framework (NTPF) is carried out to implement the recommendations of the earlier study (NTPPS).

As mentioned, the National Transport Policy Framework (NTPF) is the output of the first tier of the process. The first tier is aimed at establishing boundary conditions that would guide plan preparation under the second tier of the process. The formulation of the NTPF is the responsibility of DOTC, which coordinates closely with NEDA, DPWH, and the various other

stakeholders. The second tier will be carried out by the Study team in close coordination with each transport agency. The output of this phase, which will be developed in accordance with the concept of incremental planning, will be an agency transport plan for a six-year planning horizon.

In essence, the long-term directions to attaining the transport vision are provided by the NTPF, while the transport plan of each agency provides the specific strategies for a six-year increment.

(1) Transport Vision

Following regional consultation workshops held in Cebu and Davao, and a national workshop, attended by a total of about 200 public and private sector representatives, it was agreed to adopt the following vision.

'A safe, efficient, viable, dependable, integrated, environmentally sustainable, and people - oriented transportation system'

The core values in this 'Vision' represent the objectives which any proposed course of action is supposed to meet. These objectives are:

- ***Efficiency and economy*** – This means providing a good transport system at the lowest cost in terms of the resources used.

- ***Social objective*** – This is to give substance to the constitutional provision that 'the state shall promote social justice in all phases of national development.' The social aspects of transport should be given high priority under this objective.

- ***Environmental objective*** – This is also provided for in the Constitution where Section 15, Article II says 'the state shall protect and advance the right of the people to a balanced and healthful ecology with the rhythm and harmony of nature.' This will ensure that the unwarranted impact of transport on the environment will be minimized, as well as securing the efficient use of energy, land and other natural resources.

- ***Safety and security*** – This is to ensure that the planning, design and operation of any transport mode should incorporate safety and security measures to minimize occurrences of accidents and dangerous incidents.

(2) Transport Policy

a. <u>Regulation of Passenger Transport Services</u>

The specific policies which it is recommended be incorporated in the proposed Transport Policy Act are listed below. Regulatory policies on rail and water transport are included for greater emphasis.

Road Transport

1) Routes and areas of operation shall be determined, established and changed by the regulatory body based on technical and economic considerations, and upon prior consultation and coordination with the local government units (LGUs) concerned.

2) Franchises shall be issued upon proof by the applicant of its compliance with citizenship requirements, and financial capacity. Public necessity shall be presumed. Should there be market failure or externalities that adversely affect the public interest, the regulatory

body shall, upon due notice to and hearing of the parties-in-interest, may institute measures to manage the supply of public land transport in a route or area of operation. All franchises or operating authorities shall, in the public interest, be subject to amendment by the regulatory body.

3) Except those for regular ordinary service which shall be determined and fixed by the regulatory body taking into account capital, operating and maintenance costs as well as reasonable return, fares shall be set or changed by the operator of the public service subject to prior sufficient notice to the public. Should there be market failure or externalities that adversely affect the public interest, the regulatory body may, upon due notice to, and hearing of, the parties-in-interest, intervene and set the fare or fare range within which adjustments may be made, or implement such measures as may be required by the circumstances with due regard to the interests of the passengers and the operators.

4) The DOTC and its concerned sectoral offices and attached agencies shall regularly upgrade and update their standards on safety, level of service, and environmental sustainability in keeping with international standards and practice, and shall strictly implement and enforce the same.

Rail Transport

1) Rail transport shall be operated in accordance with acceptable standards of safety, reliability and efficiency in keeping with international standards and practices.

2) As in road transport, a regulatory body shall exercise regulatory control on the economic and technical aspects of rail transport in a manner sets forth in the preceding section.

3) Government owned and controlled rail transport operators shall set fares at rates that will generate revenues sufficient to cover all costs, net of eligible subsidies.

Water Transport

1) All vessels operated by ship operators shall at all times be in seaworthy condition, properly equipped with adequate life-saving, communication, safety and other equipment, operated and maintained in accordance with applicable international conventions and regulations as set by the regulatory body and manned by duly licensed and competent vessel crew. There shall be no compromise on matters of safety.

2) The regulatory authority shall issue certificates of public convenience to qualified domestic ship operators, taking into consideration the economic and beneficial effect which the proposed services shall have to the port province or region which it proposes to serve, and the financial capacity of the domestic ship operator to provide and sustain safe, reliable, adequate, efficient and economic service in accordance with the standards set by government regulations. Every domestic ship operator shall state in its application the route it proposes to serve, and the service it proposes to offer. Domestic ship operators who do not intend to operate in a fixed route shall nevertheless state in its application the service it proposes to offer.

3) In order to encourage investments in the domestic shipping industry by existing domestic ship operators and attract investment from new operators and investors, domestic ship operators are hereby authorized to establish their own domestic shipping rates – provided, that effective competition is fostered and public interest is served. The regulatory body shall monitor all domestic shipping operations and exercise regulatory intervention where

it is established after due process that public interest needs to be protected and safeguarded.

4) No foreign vessels shall be allowed to transport passengers and/or cargo between ports or places within the Philippine territorial waters, except when a grant of Special Permit is granted by the regulatory authority because it is warranted by public interest, there are no domestic vessels available or suitable to provide the needed shipping service.

Air Transport

1) Franchises for the operation of public air transport services shall be issued by the Civil Aeronautics Board (CAB) to an applicant upon proof of compliance with citizenship and technical requirements, and financial capacity. Public necessity shall be presumed.

2) Fares and rates shall be set by public air transport service operators subject to prior sufficient notice to the public. Should there be market failure or externalities that adversely affect the public interest, the CAB may, upon due notice to, and hearing of, the parties-in-interest, intervene and set the fare or a fare range within which adjustments may be made, or implement such measures as may be required by the circumstances with due regard to the interests of the passengers and the operators.

3) The CAAP and the CAB shall regularly upgrade and update their standards on safety, level of service, and environmental sustainability in keeping with international standards and practice, and shall strictly implement and enforce the same. There shall be no compromise on matters of safety.

4) No foreign aircraft shall be allowed to transport passengers and/or cargo between airports within the Philippine territorial jurisdiction, except when a grant of Special Permit is granted by the CAB because it is warranted by public interest and there are no domestic aircraft available or suitable to provide the needed transport service.

b. <u>Urban Transport</u>

The enumerated policies (listed below) are intended to address the undesirable side effects of transportation such as traffic congestion, traffic accidents and environmental deterioration. They are also designed to address the supply and demand gaps resulting from budgetary constraints. The formulation of urban transport policies was also guided by the transport planning principle of moving people rather than vehicles.

Policy Statements

1) Public transportation in urban areas provided by the government and/or under PSP arrangements shall be given priority over private transportation to ensure accessibility, comfort, convenience, reliability, safety, security and affordability to the majority of urban travelers. The DOTC shall define a hierarchy of urban public transport services in assigning appropriate modes to various routes or areas of operation.

2) Taking into consideration the criteria for evaluating and selecting transport projects, high capacity public transport systems shall be the preferred mode in high passenger density corridors in order to maximize the use of travel space by servicing the most number of passengers with the least delay possible.

3) Interconnectivity among public transport modes shall be of prime consideration for the development of the urban public transport system through the provision of modal interchange areas where transfer of passengers from one mode to another will be safe and convenient and vehicle movements will not disrupt traffic flow on the surrounding roads.

c. Transport Logistics

The set of transport logistics policies aims to address the above issues and concerns on critical transport infrastructure and logistics bottlenecks which impede the efficient flow of passengers and goods. The expected outcomes of the policy work are enhanced transport infrastructure, improved logistics, reduced transport time, and lower transport logistics costs.

Policy Statements

1) A seamless, intermodal transport logistics network connecting production hubs, distribution centers and markets shall be established to ensure high-quality, efficient logistics chains and to ensure unimpeded flows of relief goods, disaster response equipment and basic commodities during times of emergencies resulting from natural calamities and other disasters.

2) A single transport document for customs, immigration, quarantine and security purposes that can be used in all transport modes shall be established, thereby facilitating multimodal freight transport and enhancing the framework offered by multimodal waybills or manifests.

3) A single access point and one stop-shop for administrative processes and procedures in all modes shall be established to promote simplification and decentralization of exchanges of freight-related information and to substantially reduce the cost of regulatory requirements, especially when using Information and Communication Technologies (ICT).

4) In order to facilitate transshipment between modes and reflect technological developments, national standards for intermodal loading units shall be introduced, which aims at decreasing transaction costs in handling operations between modes by standardizing certain handling characteristics of intermodal loading units.

5) As transport logistics involve distribution in urban areas, efficient interfaces between trunk deliveries over longer distances and distribution to the final destination over shorter distances shall be developed with full consideration of aspects of land use planning, environmental considerations and traffic management. Where warranted by the logistics chain characteristics.

Consolidation / distribution centers such as truck terminal and rail-served inland container depot (ICD) shall be established outside of metropolitan areas.

d. Governance

The search for the best governance framework has not always been easy, or formulaic, because of differences in factor endowments, sector constraints and opportunities, which are complicated by country-specific social, political and economic conditions. What works in one country will not necessarily produce the same results in another country. Nevertheless, a guiding principle enshrined in the Philippine Constitution is ‘subsidiary’, which postulates that matters ought to be handled by the smallest, lowest or least centralized competent

authority. In transport, this means a policy of devolution, decentralization, and divestiture in order that movement of Philippine goods and people is effected in a manner which utilizes the fewest economic and human resources. It implies a reliance on competition and market forces to the extent possible, so that government can be lean and effective in the few areas of transport that it should do and can leverage better. It implies the separation of regulation from operation – such that when one government agency engages in one, it divests itself of the other.

Another important tenet to enhance organizational efficiency of the government transport bureaucracy is transparency and accountability in its business processes. This along with the above-mentioned concepts and principles guided the formulation of the following policies.

Role of Private Sector

1) The government shall provide scope for PSP where such potential exists and shall withdraw from transport activities and areas where the private sector is strong and competition exists or can likely emerge. The government shall concentrate on direction-setting, technical regulation and economic regulation.

2) In PPP, no unsolicited proposal shall be entertained, except when the project can pay for itself entirely from user revenues such as in BOO, BOT and similar schemes. Accordingly, any development based on an appropriate feasibility study shall first be offered for PPP through public bidding. The feasibility study shall be made available to any interested private party. The planning and implementation of PSP and PPP projects shall adhere to the following guidelines.

    a.) The plans, programs, and projects of each modal agency shall include those proposed for PSP or PPP implementation.

    b.) Projects which are necessary for public service, are economically feasible and show potentials for direct cost recovery and revenue generation, but may not attract private financing because the private investment cannot be fully recovered from revenues at rates that users will be able or willing to pay, shall be given priority in the allocation of Government Financing Support (GFS) through PPP schemes. The GFS shall not be recovered from the revenues, but shall be included in the government budget.

    c.) Where a transport project requires a government contribution to bridge the financial viability gap, the contribution shall be in the form of a justifiable share in the project cost. An existing right of way owned by government, when provided by it, shall not form part of its contribution to the project cost.

    d.) In the allocation of risks between the parties in a PPP contract, completion and commercial risks shall reside with the private proponent. The rights-of-way risks shall be assumed by the government.

3) The DOTC, DPWH and other transport agencies of government shall encourage and support transparency and accountability initiatives of the private sector and civil society in connection with the planning and implementation of government transport projects.

2.2.3 The Study of Masterplan on High Standard Highway Network Development in the Republic of the Philippines

a. Brief Background

Traffic congestion along the national arterial roads causes various problems such as increase of travel time, failure of timely delivery of goods and people, losses of valuable time of people, aggravated roadside environment including air pollution, noise and vibration, etc.. Chronic traffic congestion on the urban roads in major cities and road sections along urbanized areas of the inter-city road is one of the most serious problems of road traffic in the Philippines. Inefficient transport conditions are adversely affecting sound socio-economic development of the regions and the country as a whole, losing global competitiveness and foreign and domestic investment.

To cope with the above problems, the Department of Public Works and Highways (hereinafter referred to as "DPWH") has drawn up various measures such as development of expressway network, construction of bypasses and ring roads at regional cities, widening of existing roads, etc. These plans, however, were not necessarily implemented well due to lack of overall master plan with project prioritization, lack of proper implementation schemes involving private sector's participation, lack of both public and private funds, and lack of appropriate operation and maintenance system. The Study was conducted by a Study Team organized by the JICA from April 5, 2009 to May 20, 2010.

b. Objectives of the Study

The objectives of the Study are as follows:

- Formulation of Development Strategy for the High Standard Highway (HSH) Network; and
- Formulation of the High Standard Highway Master plan.

The development strategy for the High Standard Highway Network covers Metro Manila and 200 km sphere, Metro Cebu and the Tagum - Davao - Gen. Santos corridor. The Master plan however covers only Metro Manila and its surrounding areas within the 200 km sphere.

c. Output of the Study

The study prepared the following:

- Formulation of Development Strategy for High Standard Highway Network,
- Formulation of High Standard Highway Master Plan,
- Public-Private Partnership (PPP) Roadmap for project implementation and
- Strengthening of DPWH's capability to implement projects.

The Study prepared a High Standard Highway Network Masterplan and below is the priority projects recommended by the study.

Project Name
- NLEx – SLEx Link Expressway
- NAIA Expressway (Phase 2)
- C-6 Expressway/Global Link
- C-6 Extension (along Laguna de Bay)
- Manila Bay Expressway

- CALA Expressway
- Central Luzon Expressway (CLEx)
- Calamba-Los Baños Expressway
- SLEx Extension (to Lucena City)
- NLEx East
- La Mesa Parkway
- C-5/FTI/Skyway Connector Road
- Pasig-Marikina Expressway
- R-7 Expressway

(Beyond 2030)
- Manila-Bataan Coastal Road
- NLEx-Phase 3
- East-West Connection Expressway

d. <u>Financing of the Recommended Projects</u>

The Government Financing Capability (GFC) for the Master Plan was also examined by the Study under the following assumptions:

- DPWH capital outlay budget will increase at 5% per annum in real term.
- Maximum allocation of DPWH capital outlay budget to the Master Plan projects (GFC) will be 10%

Since 2005 to 2010, DPWH capital outlay budget drastically increased at an average rate of about 30% (nominal). For estimation of future budget, it was assumed that 5% annual increase of budget will be made.

Three cases were examined as follows:

Case-1
All AFR is financed by the Government.

Case-2
AFR is shared by the Government and the private sector at the ratio of 75 to 25.

Case-3
AFR is shared by the Government and the private sector at the ratio of 60 to 40.

Result is shown below:

Fund Sharing of AFR		**No. of Years that AFR exceeds GFC**
Case-1	Government : 100% Private : 0%	9 Years
Case-2	Government : 75% Private : 25%	7 Years
Case-3	Government : 60% Private : 40%	0 Year

From the view point of GFC, the Master Plan projects can be funded under Case-3. It suggests that the Government should seek about 40% funding from the private sector to realize the Master Plan projects.

e. Strengthening of DPWH for PPP Project Implementation

(1) Need to Enhance the DPWH Capability for PPP

- More PPP projects are necessary to enlarge the government budget envelope for road development. Based on DPWH data, the government budget ceiling for national roads is only 0.86 percent of the Gross Domestic Product (GDP) in 2010, compared to the need to attain a road investment level of at least 1.5 percent of the GDP by 2016 to support the growth of the economy.

- PPP projects will drive greater efficiency in road development and management by tapping the skills and initiative of the private sector, particularly the built-in incentive for private firms to minimize costs and maximize their returns.

- As a policy, the government discourages unsolicited proposals for PPP projects. This places on DPWH the responsibility to be pro-active in developing a pipeline of feasible expressway projects suitable for tendering in the PPP market.

- To ensure the coordinated development and management of expressway projects, DPWH is proposed to be the sole entry point for toll road projects and to take the lead role in all toll road/expressway transactions and decision-making.

(2) Recommended Organizational Restructuring and Delineation of Functions

This Study supports the proposed DPWH Rationalization Plan for the establishment of the PPIPO (in lieu of the PMO-BOT), but suggests that the PPIPO be further enhanced by considering the changes recommended by the PMO-BOT officials as mentioned above.

Hence, it is recommended that the PPIPO be provided the following technical staff, all of whom should have a regular or permanent status:

RECOMMENDED ORGANIZATION FOR PPIPO

(1) - Director IV (in lieu of Director II) who shall be the head of the PPIPO.
(2) - Engineer V who shall undertake and supervise PPP project planning and development and project execution and contract management, including risk assessment.

(2) - Engineer III who shall assist the Engineer V personnel in their functions.

(1) - Legal Officer IV who shall prepare and review concession agreements, participate in negotiations for PPP projects, and handle other legal matters.
(1) - Financial Analyst IV who shall undertake and review financial evaluation and assess financing structures for PPP projects.
(1) - Economist IV who shall carry out and review economic feasibility evaluation of PPP projects.
(1) - Marketing and Communication Specialist who shall develop marketing strategies and promote and market PPP projects.
(1) - Project Development Officer II who shall assist the Engineer V in other aspects of project development.

This Study also endorses the Rationalization Plan to augment the staff of the DPD (as mentioned above) which will prepare road/expressway plans, and to create the PPED (in lieu of the PMO-FS) to conduct/review FS or projects, including PPP expressways. Furthermore, this Study supports the creation of the ESROWO (merging the ESSO and IROWR-PMO) with the proposed staffing under the Rationalization Plan which already reflects most of the staff changes recommended by the IROWR and ESSO respondents to the survey. This Study likewise agrees with the proposal of the BOD for additional engineers and geologists to handle geotechnical and geological investigations, geo-hazard assessment, and road traffic safety, as well as additional CAD operators.

It is necessary, however, that any proposed revisions in the staffing pattern of DPWH be made within the "scrap-and-build" policy of the government, i.e., the creation of new positions or upgrading of existing ones must be accompanied by the abolition of existing positions such that the total personnel budget of the proposed new/upgraded positions does not exceed the total personnel budget of the positions to be abolished.

To ensure well coordinated development and management of PPP projects and to avoid duplication and gaps in the process, it is recommended that the functions and responsibilities of the different units concerned be clearly defined, as shown in **Table 2.2.3-1**.

TABLE 2.2.3-1 PROPOSED DELINEATION OF PPP FUNCTIONS AND RESPONSIBILITIES AT DPWH

Activity	Lead Office	Cooperating Offices	Possible Outsourcing
1. PPP Policy Framework Formulation/Update	**PS-DPD**		
1.1 Legal and policy framework	PS-DPD	PPIPO,LS, (NEDA)	
2. Project Identification	**PS-DPD**		
2.1 Formulation or road network plan	PS-DPD	PS-IPRSD,PS-RSTA, PPIPO	
2.2 Identification of potential expressway projects	PS-DPD	PPIPO	
2.3 Formulation of expressway master plan	PS-DPD	PPIPO	
3. Project Business Case (BC) Study	**PS-PPED**		Entire BC Study
3.1 PPP suitability assessment	PPIPO	PS-PPED	
3.2 Preliminary traffic study	PS-PPED	PS-RSTAD, PPIPO	Prelim traffic surveys
3.3 Technical assessment	PS-PPED	PPIPO, BOD	Prelim engg surveys
3.4 Environmental assessment, including ROW issues	ESROWO	PS-PPED, PPIPO, (DENR)	
3.5 Preparation of O&M scheme	PPIPO	PS-PPED, BOM	
3.6 Preliminary economic analysis	PS-PPED	PPIPO	
3.7 Preliminary financial evaluation	PS-PPED	PPIPO	
3.8 Project business case appraisal/approval	PPIPO	PS-PPED, (NEDA)	
4. Project Feasibility Study (FS)	**PS-PPED**		Entire FS
4.1 Detailed traffic study and forecasts	PS-PPED	PS-RSTAD, PPIPO	Traffic surveys
4.2 Technical soundness evaluation	PS-PPED	PPIPO, BOD	Engg surveys/ investigations, value engg
4.3 Environmental impact evaluation	ESROWO	PS-PPED	EIA
4.4 Preparation of ROW and resettlement plans	ESROWO	PS-PPED, (BIR,LGUs,PCUP,NHA)	Parcellary surveys

Activity	Lead Office	Cooperating Offices	Possible Outsourcing
4.5 Preparation of O&M plan	PPIPO	PS-PPED, BOM	
4.6 Economic evaluation	PS-PPED	PPIPO	
4.7 Financial evaluation	PS-PPED	PPIPO	Financial analysis
4.8 Risk assessment	PS-PPED	PPIPO	Risk analysis
4.9 Selection of appropriate PPP modality	PPIPO	PS-PPED	
4.10 Preparation of procurement plan and bidding docs	PPIPO	PO, LS	
4.11 Project appraisal/approval	PPIPO	PS-PPED, (NEDA)	
5. Project Procurement	**PO**		
5.1 Conduct of bidding	PO/BAC	PPIPO	
5.2 Bids evaluation and award	PO/BAC	PPIPO	
5.2 Contract perfection	PPIPO	LS	
6. Project Implementation	**PPIPO**		
6.1 ROW acquisition and delivery	ESROWO	PPIPO, (BIR, LGUs, OSG, Courts)	
6.2 Financial closure	PPIPO	LS	
6.3 Review/supervision of detailed engineering design	BOD	PPIPO	Value engg, IDC
6.4 Supervision of construction	PPIPO	BOC	ICE
7. Project Operation	**PPIPO**		
7.1 Toll rates and adjustments	PPIPO	(TRB)	
7.2 Supervision of O&M	PPIPO	(TRB)	
8. Project Monitoring and Post-Evaluation	**PPIPO**		Impact evaluation
8.1 Monitoring & evaluation of outputs	PPIPO	MIS, PS-PPED	
8.1 Monitoring & evaluation of outcomes	PPIPO	MIS,PS-PPED	

Note: Agencies within parentheses are external to DPWH

(3) Recommended Training Program

Taking into account the results of the self-assessment survey of training needs for PPP, the comments and suggestions of BOT firms, the capability requirements of the different steps in the PPP project cycle, and the needs of the proposed restructuring of the DPWH organization, a regular training program on PPP at DPWH is recommended in this Study. This program will consist of eight modules as shown in **Table 2.2.3-2**.

TABLE 2.2.3-2 RECOMMENDED TRAINING PROGRAM

Module No.	Topic	Brief Contents
1.	PPP Legal and Regulatory Framework	• Pertinent laws, rules and regulations • PPP policy framework
2.	Project Identification	• Formulation of road network plan • Identification of potential PPP projects • Preparation of expressway master plan
3.	Project Business Case Study	• PPP suitability assessment • Traffic Study • Technical evaluation • O & M scheme • Environmental impact assessment • Preliminary economic analysis • Financial viability assessment • Business case appraisal and approval
4.	Project Feasibility Study	• Detailed traffic study and forecast • Technical soundness evaluation • Environmental impact evaluation

Module No.	Topic	Brief Contents
		• Preparation of ROW and resettlement plan • Preparation of O & M plan • Economic feasibility evaluation • Financial viability evaluation • Risk assessment • Selection of PPP modality • Preparation of procurement plan and documents • Project appraisal and approval • Programming and budgeting
5.	Project Procurement	• Conduct of bidding • Bids evaluation and award • Contract perfection
6.	Project Implementation	• ROW acquisition and delivery • Financial closure • Review and supervision of detailed engineering design • Construction supervision
7.	Project Operation	• Implementation of toll rates and adjustment • O & M supervision
8.	Project Monitoring and Post-evaluation of Impact	• Monitoring and evaluation of project outputs • Monitoring and evaluation of project outcomes

f. Recommendations

- **Plan Authorization**

  Proposed Master Plan should be authorized by DPWH as the agency's plan, then by NEDA as the national plan. Eight (8) projects under the first priority group should be included in "LIST OF PRIORITY PROJECTS for PPP", MTPDP, CIIP, MTPIP, and MTRDP, thus the firm commitment of the Government and DPWH should be expressed.

- **Sufficient Study for Project Preparation**

  To successfully implement PPP projects, sufficient study should be undertaken. Business Case Study and detailed feasibility Study should be undertaken to formulate firm PPP scheme. More time and fund should be spent for project preparation stage.

- **Government Budget Increase and Active Participation of Private Sector**

  Huge investment (141 Billion pesos by 2020 and 203 Billion pesos between 2020 and 2030 or a total of 344 Billion pesos) to realize Master Plan is required. DPWH budget should be increased and active private sector participation should be seeked. DPWH capital outlay budget should be increased at least 5% per annum in real term. About 40% of private sector financing for the Master Plan projects should be targeted.

- **Strong DPWH'S Initiative to be Exercised**

  DPWH should authorize eight (8) priority projects, include them in the "List of Priority Projects for PPP" and establish firm implementation schedule. For various projects proposed by GOCCs and the private sector, DPWH should properly act on them.

- **DPWH as a Single Entry Point of PPP Project**

  DWPH should be authorized as a single entry point of expressway projects.

- **Expedition of Row Acquisition**

  One of the most serious bottlenecks of project implementation is delay in ROW acquisition. Early start of ROW acquisition soon after project is approved, adoption of market price for purchasing lands and properties and strengthening of PMO-IROWR are needed.

  In order to start ROW acquisition early, accuracy of the preliminary design during the detailed feasibility study should be improved.

- **Strengthening of DPWH Organization and Capacity Development**

  DPWH should be the "main engine" to accelerate PPP projects. DPWH's initiative and roles are quite important. To pursue these objectives, DPWH needs to strengthen its PPP related organization and capacity. Various recommendations made by this Study should be implemented.

- **Updating of the Master Plan**

  The master plan should be updated every 5 years.

- **Unsolicited Proposal**

  Present Government policy stipulated in the BOT Law should be continuously and strictly followed. The private sector should formulate projects which are financially viable without direct Government's guarantees, subsidy and equity.

  For this purpose, private sector should plan toll expressway combined with a land development project to improve profitability.

- **Comprehensive EIA Study**

  All projects will require high number of resettlement, and many projects will take productive agricultural or fishery lands. All possible mitigation measures should be proposed and implemented.

- **Metro Cebu and Tagum – Davao – Gen. Santos corridor**

  DPWH should prepare Master Plan based on proposed HSH Network Development Strategy.

- **HSH-2 Road Development**

  Proposed HSH-2 Projects should be planned and implemented in due consideration of HSH-1 Network Development.

- **DPWH'S Road Classification**

  DPWH should add HSH-1 and HSH-2 in its road classification and information of these should be compiled in the road statistics.

- **Updating of Traffic Data**

  Traffic data gathered under this Study should be updated regularly.

2.2.4 DPWH's Draft Medium-Term Public Investment Program (2011-2016)

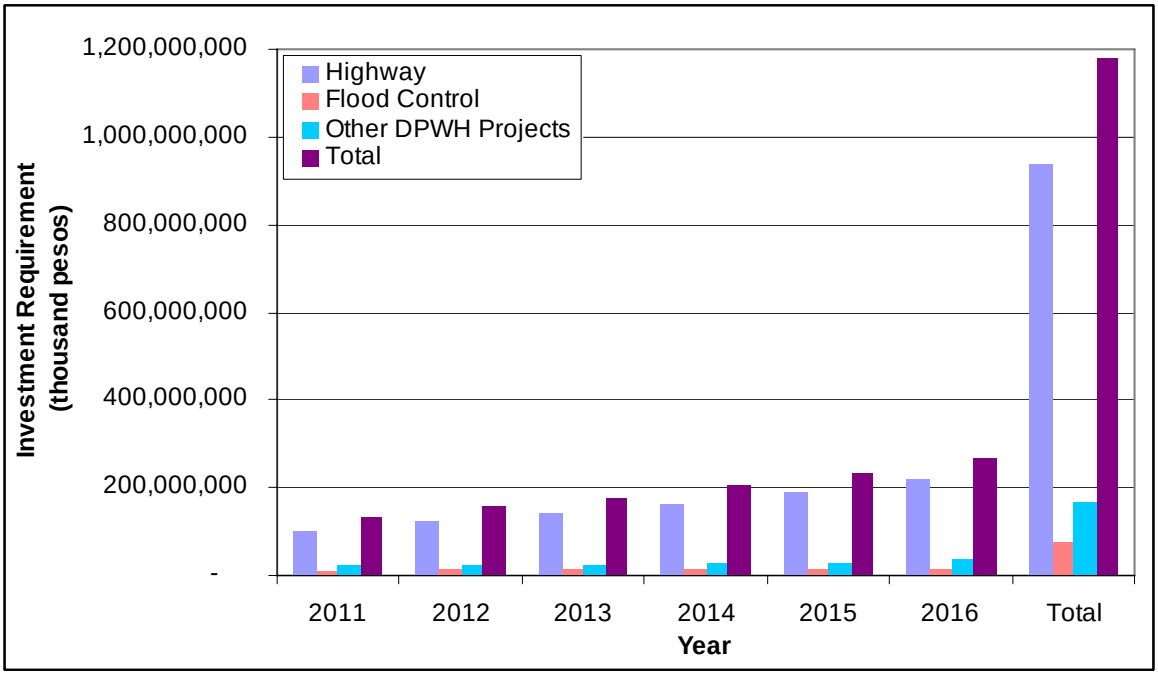
(1) General

The draft Medium Term Public Investment Program (MTPIP) from 2011-2016 of DPWH contains the priority programs, activities and projects (PAPs) implemented by DPWH in support of the Medium Term Philippine Development Plan (MTPDP). It is an instrument to monitor the national government's targets, commitments and resources, in terms of public investments over the medium term. It serves as a critical input to the annual budget formulation guided by the Medium Term Expenditure Framework. The MTPIP also sets the tone in resource programming by the Investment Coordination Committee.

(2) DPWH Medium Term Public Investment Program

Under the proposed MTPIP for 2011 – 2016, the DPWH is envisaging a total investment of 1,179.992 Million pesos. Of this total investment requirement in the proposed MTPIP, 938.280 Million pesos or 79.52% is earmarked for the highway sector, 75.082 Million pesos (6.36%) for flood control works and 166.629 Million pesos (14.12%) for other locally-funded projects over the medium term.

The proposed investment requirement for the proposed FY 2011 is 134.256 Million pesos. The annual increase is fifteen percent from 2010 budget.



Source: Medium-Term Public Investment Program, DPWH, 2010

FIGURE 2.2.4-1 MEDIUM-TERM PUBLIC INVESTMENTS PROGRAM (FY 2011 - 2016)

(3) Detailed Strategy to Operationalize the MTPIP

The following are the DPWH strategies in 2010 and beyond to operationalize the MTPIP:

- Output Budgeting (Major Final Outputs)
- E-NGAS, Civil Works Registry, Project Monitoring, Cost Estimation, Procurement Management, Value Engineering, Planning Applications
- Climate Change Adaptation
- Disaster Risk Management
- Gender and Development
- Governance Scorecard
- Integrity Strengthening

(4) Infrastructure Priorities Based on Core MMFOs

A. National Roads and Bridges

1. Traffic decongestion in Metro Manila and highly urbanized cities
2. Rehabilitation/replacement of damaged bridges along national roads
3. Upgrading of unpaved national roads (gravel to paved)
4. Rehabilitation/reconstruction of damaged paved national roads
5. Road opening/construction of missing link of national roads
6. Construction/completion of on-going national bridges

B. Major Flood Control Works

1. Drainage protection works along national roads and bridges
2. Flood control structures along 20 major river basins and 376 principal rivers identified by DENR.

(5) Policies and Strategies on Environmental and Social Concerns

The DPWH can contribute in the implementation of its mandates; diligently execute specific roles and commitments to Climate change Adaptation Strategies, among them are:

- Strengthening the existing infrastructures through improved maintenance and increased capacity – resilient to climate variations

- Regulating the usage of high-wattage neon lights on Billboards (outdoor advertisements) located in major highways through compulsory shutting-off at 2300 hours.

- Encouraging building owners to convert their rooftops into urban gardens.

- Promoting flood control management through integrated water resource management approach.

- Promoting schemes to construct efficient rainwater collection system, i.e., cisterns and install rainwater barrels to store rainwater in areas vulnerable to drought.

- Promoting schemes to encourage adoption of water conservation practices and recycling of used water.

- Developing building designs/styles that can withstand strong typhoons.

a) Policies to integrate adaptation strategies in the planning infrastructure development (road, bridges and public buildings)

Climate Outcome	Specific policies	Indicator of Progress
More frequent interruption in travel schedule due to severe flooding at low-lying coastal infrastructure. More road closures due to landslide on the highlands.	Scheme to evaluate climate impact on travel	
	Investment on development of floodgates and tidal barriers	Coverage of the floodgates and tidal barriers
	Scheme to construct dikes, levees, floodwalls	Funds allocated for investment of the infrastructure
	Strict regulation of passage on hazard zones	
	Relocation of sections of roads vulnerable to climate change – Alternate Route	
	Scheme design to incorporate marginal increase in the height of coastal infrastructure such as bridges, sea walls, jetties to provide cushion to offset sea level rise	Update Design specifications
	Scheme to develop early warnings systems	Early warning signage in place

b) Policies to incorporate adaptation alternatives in the EIA documents

Climate Outcome	Specific policies	Indicators of Progress
Changes in climate will lead to changes in environmental resources and sensitivity.	Scheme to consider and implement programmatic approaches to resource and regulatory compliance	Establish efficient and effective processes for EMB-DENR on permit compliance for emergency
Increase in number and frequency of emergency projects	Develop better scooping process to integrate adaptation alternatives early in the environmental process	Incorporation of adaptation alternatives in the EIA Report

c) Policies to encourage rainwater harvesting

Climate Outcome	Specific policies	Indicator of Progress
Run-off is collected from rooftops, ground catchments, as well as ephemeral streams (flood water harvesting) and road/footpath drainage. Diverting, collecting, storing, utilizing and managing run-off for productive use	Schemes to construct different structures for storage of run-off-cistern, tanks, reservoirs, small dams, etc.	Public Investment in structures for water harvesting

d) Policies for compulsory reduction of energy consumption on billboards

Climate Outcome	Specific policies	Indicator of Progress
Energy Consumption reduction on high-wattage neon lights on billboards	Regulation on the usage of high-wattage neon lights on billboards through compulsory shutting off at 2300 hours.	Energy Audit Program
Scheme to convert rooftops to urban gardens	Scheme to provide incentives to building owners to convert rooftops to urban gardens.	Voluntary agreements
Encroachment along riverbanks, coastal areas, and other water bodies; Road encroachment on coastal roads	Strict implementation on D.O. 50, series Resettlement Action Plan	

e) Policies of Clean Water Conservation

Climate Outcome	Specific policies	Indicator of Progress
Water conservation at the household levels, workplace, thus reduce the demand in scenarios when supply is limited	Schemes to encourage adoption of water conservation practices at home, workplace such as water saving taps, flushing and showering	Proportion of household or number of persons in workplace water usage in relation to the water consumptions
	Scheme to construct cisterns and install rainwater barrels to store rainwater	Investment on prototypes and selection of pilot areas
	Scheme to enhance water saving in public facilities	
	Scheme to promote water conservation in the river basin	
Avoidance of encroachers near the riverbanks, coastal area and other water bodies	Strict adherence to existing policies o the Department on the acquisition of RROW, on the dangerous areas (coastal, riverbanks, etc)	Evacuees from the said areas minimized/eliminated

f) Policies to strengthen the flood management function of DPWH

Climate Outcome	Specific policies	Indicator of Progress
Damage to lives and properties and infrastructures due to water-induced disaster such as flooding	Policy on providing efficient disaster mitigation structures and strengthening the DPWH capacity in implementing, maintaining and sustaining effectiveness of disaster prevention facilities and flood mitigation infrastructure SABO Dams	Institutionalization of Flood Control and Sabo Engineering Center 2005

g) Policies to promote river basin planning and coordination for flood control projects

Climate Outcome	Specific policies	Indicator of Progress
Comprehensive planning across river basins will provide solution to problems on water quality and quantity and problems on flooding	Scheme to enhance river basin management by coordinating different interest groups among upstream and downstream users.	Completed and on-going Flood control projects • KAMANAVA Flood Control • Agno River • Cagayan River
	Scheme to promote water conservation in the river basin.	• Laoag River • Iloilo Flood Control • Cotabato River Basin • Agusan River Basin • Kinanliman River • Ormoc Flood Mitigation • Camiguin Flood warning system Voluntary Agreements
	Scheme to shift focus river channel improvement to basin management for flood control than	Cavite Lowland Study-Use of detention basins
Increased variability in run-off and higher storage capacity requirement in case of adverse effects due to increase in local run-off and intensity and frequency of precipitation and rainfall.	Scheme to incorporate marginal changes in the planned construction of water resources infrastructures such as reservoirs, dams, canals, pipelines, culverts, pumping stations, storm drainage, and flood control works to adapt to increased variability in runoff or to a need for a bigger storage capacity.	Capacity of water resources infrastructure to accommodate sudden short-term storm surges

h) Policies to adapt climate change strategies to maintenance of infrastructure

Climate Outcome	Specific policies	Indicator of Progress
Seal level raises above the average daily surf lines, storm surges, change in typhoon patterns would result to:	Investment in the repair of undermined, sections, modify existing riprap system, raise of grade, realignments away from sea viaduct.	Budget allocation for maintenance works and emergency repairs
	Investment to raise bridges to maintain minimum clearance for navigation.	
	Investment of provision of warning system	
	Scheme to upgrade the maintenance capability	
	Investment on early warning system	
	Investment on emergency repairs	
	Programs to improve drainage facilities	
Hotter pavement temperatures will increase in pavement "blow-ups and tilting up of pavement slabs	Investment on emergency repairs	

i) Policies to design building resilient to climate variations

Climate Outcome	Specific policies	Indicator of Progress
Public Buildings such as school buildings, hall of justice, government office buildings should be design to withstand the strong tropical storms.	Policy to modify building designs and codes to withstand strong typhoons and heavy rains	Amendment to National Building Code. Prototype school buildings, public (government buildings)

j) Policies that promote adaptation strategies into DPWH strategic planning

Climate Outcome	Specific policies	Indicator of Progress
Management of microclimate variations	Scheme on District System Management Plan	District Adaptation Plan
	Scheme on Inter-regional and regional adaptation strategies.	Regional Adaptation Strategies
	Define risk areas on a particular road or segment road. Evaluate climate impact or travel modes, emergency responses. Identify concept of adaptation.	Vulnerable/hazard maps.

k) Policies that promote management of microclimate variations

Climate Outcome	Specific policies	Indicator of Progress
Potential impact of climate change on the environment, economy and the quality of life. The integration of adaptation strategies of DPWH business operations.	Develop pro-active steps to assess potential types and levels of threats of climate change to the transportation system	Vulnerable Map
	Action plan minimize vulnerability	Action Plan and Investment on structures for protection against vulnerability
	Develop partnership with climate change stakeholders	EO 774, PTFCC
	Review existing planning tools and performance standards on climate change adaptation update them to include	Amendments to DPWH specifications
	Provision and exemption for critical investments for short term safety, operation and maintenance of the infrastructure and economy of the nation	Investment plan or budget plan
Avoidance of encroachers		

(6) Policies and Strategies on Gender Mainstreaming consistent with the Philippine Plan for Gender-Responsive Development (PPGD), 1995-2025

1. Promote Economic Empowerment of Women

   - Identify and review existing key economic programs for women and enhancing women's access top economic resources such as technology, information, market and training.

2. Advance and protect women's human rights

   - Ensure the responsiveness of DPWH programs on women, particularly on VAW including access to justice and crisis interventions.

   - Assist women in difficult circumstances (e.g. women in conflict and disaster areas, abused, etc.)

3. Promote gender-responsive governance

   - Promote and support women's leadership towards good governance (competence, commitment, transparency and accountability)

   - Strengthen gender-sensitive and inclusive programs for women

(7) Desired Outcomes over the Medium Term

The table below shows the target of MTPIP until 2016. The main components are: network development, asset preservation and reconstruction/replacement/construction of bridges.

TABLE 2.2.4-2 DESIRED OUTCOMES OF THE MEDIUM TERM

National Roads/Bridges	Scope of Works	Length (km)	Physical Target (2011-2015)					
			2011	2012	2013	2014	2015	2016
I. Network Development								
a. Arterial Roads (15,713 km)	Improvement / Upgrading /Paving	1,500	250 (89%)	250 (91%)	250 (92%)	250 (94%)	250 (96%)	250 (97%)
b. Secondary Roads	Improvement / Upgrading /Paving	2,958	493 (70%)	493 (74%)	493 (77%)	493 (81%)	493 (84%)	493 (88%)
II. Asset Preservation								
	Preventive Maintenance	5838	973 (17%)	973 (27%)	973 (37%)	973 (46%)	973 (56%)	973 (66%)
III. Bridges (338,583 lm)								
	Total Length (lm)	338,583	90%	92%	94%	96%	98%	100%
	- Reconstruction of temporary bridges	9,500						
	- Improvement of temporary bridges	5,400						
	- Replacement / rehabilitation of existing bridges	11,000						
	- Construction of new bridges	2,000						

2.3 ROAD SUB-SECTOR

2.3.1 DPWH Budget

The AusAid assisted study entitled Draft National Transport Plan (2010) found out that expenditure on infrastructure in the Philippines has averaged only about 2.7 percent of GDP over the last decade for the transport sector alone; spending in the country averaged only 1.0 percent of GDP with national roads expenditure averaging only 0.7 percent of GDP. The reason for this was the limited contribution from the government, road users and the private sector. Table below shows the budget of the DPWH from 2006 to 2010.

TABLE 2.3.1-1 DPWH BUDGET

Category	**Year (Thousand)**				
	2006	**2007**	**2008**	**2009**	**2010***
Highways	35,506	37,287	57,601	87,235	102,642
Flood control	4,833	8,031	6,098	7,639	6,694
Others	7,380	17,342	27,855	29520	33,144
Total	47,719	62,662	91,555	124,394	142,480

Source: DPWH Atlas 2009; *data from DPWH Planning Service

2.3.2 DPWH Organization

After a long process of evolution by virtue of Executive Order No. 124, dated January 30, 1987, the Department of Public Works and Highways (DPWH) was organized with five (5) bureaus, six (6) services, sixteen (16) regional offices, twenty-four (24) project management offices, sixteen (16) regional equipment services and one-hundred eighteen (118) district engineering offices.

Organization chart of DPWH are shown in **Figure 2.3.2-1** and the function and responsibilities pertaining to be development and management of PPP expressway projects at DPWH are presently distributed among several offices, as follows:

(1) **PMO-BOT**: This Office is tasked to identify and initiate projects for BOT/PPP implementation; prepare/review feasibility studies (FS) and proposals for BOT/PPP projects for approval of the NEDA-Investment Coordinating Committee (ICC); prepare bidding documents; participate in negotiations and finalization of BOT/PPP contracts; and monitor/supervise the implementation of BOT/PPP projects.

Per Department Order Number 228, Series of 1991, the functions of PMO-BOT are to initiate, promote, supervise and perform such acts related to the implementation of the Department's BOT projects. The organization is divided into two major divisions. Its respective functions are as follows:

Project Planning and Development / Road Right of Way Unit

- Prepare studies which include engineering, legal, economic, financial and environmental aspects to determine the potentials of projects for BOT implementation;
- Includes in the infrastructure program priority projects that may be financed, constructed, operated and maintained by the private sector and gives wide publicity to all such projects;
- Sees to it that the list of all such national projects must be part of the medium term infrastructure programs of the agency, duly approved by the congress prior to the bids for their implementation;
- Prescribed the minimum design and performance standards and specifications, and the economic parameters which shall be observed by the bidder/contractor in preparing its bid;
- Secure from the Environmental Management Bureau (EMB) of DENR, the Environmental Clearance Certificate (ECC) for the project;
- Submit to ICC-NEDA for approval, all proposed BOT projects;
- Indicates the facilities associated with the subject project which are to be provided by the government which may include but not limited to Tight of Way;
- Acquires the needed Right of Way for the project.

Project Executing / Contract and Engineering Management

- Reviews program and conduct evaluation of actual performance against programmed plans and specifications;
- Identifies implementing problems and recommends and/or take appropriate remedial measures to enable expeditious and economical prosecution of projects;
- Monitors progress of the implementation and execution of the projects;
- Prepares physical and financial status reports of the projects, as required;
- Exercise "technical supervision" over the project activities, by inspecting and checking whether the project is conducted, operated and maintained in accordance with the plans, specifications, standards and cost approved by the Department;
- Assured compliance by the contractor with the performance target or milestone both physical and financial set out in the contract;
- Recommends revocation, cancellation or termination of the contract in case of force majeure, such as war, rebellion, major calamities or extraordinary economic upheaval or in case of failure of the office to provide the required Right of Way and other facilities which the government is obliged to provide under the contract or changes in government plans and policies that require stoppage of the project or major revisions therein which substantially affect the original design and feasibility of the project;
- Creates a prequalification bids and award committee;
- Causes to be published a notice inviting all prequalified infrastructure contractors to participate in the bidding for the project so approved by congress;

- Prepares bidding documents for the project to guide the prospective bidder in preparing and submitting its prequalification application and bid proposal;
- Specifies the needed experience of the key personnel needed in the relevant aspects of schemes similar or related to the project and adopt a quantitative rating system for the technical and managerial and financial criteria;
- Participations in the negotiation and finalization of the BOT contracts.

(2) **Planning Service (PS)**: This Service is assigned to formulate policies, plans and programs for the development of the national road network, which includes expressways; conduct/review FS of road/expressway projects; prepare PPP proposals for ODA financing; maintain a national road database; and prepare multi-year and annual budgets for the construction (including right-of-way and engineering) and maintenance of national roads. Functions of specific unit within the Planning Service are as follows:

Development Planning Division

- Formulates policies, guidelines, standards, criteria, methodologies and strategies for development planning and identification of public works and highway projects consistent with national development policies and objectives;
- Responsible for the formulation of the medium and long term infrastructure developments plans and programs of the Department, including the identification of projects for funding;
- Responsible for the formulation of the master plan for infrastructure, the identification and conduct of feasibility and pre-feasibility studies of infrastructure projects, and the evaluation of proposed projects to determine their technical and economic viability;
- Responsible for the collection and analysis of social and economic data to support feasibility studies;
- Responsible for conducting post evaluation of projects to determine their actual impacts;
- Performs other duties and responsibilities as may be assigned.

Project Evaluation Division

- Responsible for the development of road safety programs, including the identification and evaluation of civil works projects to enhance road safety;
- Responsible for conducting road safety audits and evaluation of civil works projects, including “black” (accident-prone) spots;
- Responsible for the collection and analysis of motor vehicle accident data as inputs to road planning and design;
- Responsible for the implementation of the nationwide traffic counting program and analyses of traffic data, including annual average daily traffic (AADT) and weighbridge data for use in road planning, design and maintenance programs;
- Formulates traffic engineering policies and procedures in coordination with the Traffic Engineering Center and other appropriate agencies;
- Performs other duties and responsibilities as may be assigned.

Programming Division

- Formulates policies, guidelines, criteria and methodologies for the preparation of annual infrastructure programs, including criteria for fund allocation, and project selection and prioritization;
- Responsible for the evaluation and prioritization of on-going and new infrastructure projects for inclusion in the annual infrastructure projects;
- Initiate, prepares, reviews and integrates annual regional infrastructure programs and formulates the overall national infrastructure program of the Department;
- Evaluates and processes requests for funding and programming of infrastructure projects;
- Performs other duties and responsibilities as may be assigned.

Infrastructure Planning Research & Statistic Division

- Responsible for the management of infrastructure data, collection of roads, flood control and other public works including gathering, analyses and integration for the Locational Referencing System (LRS) and Geographic Information System (GIS);
- Responsible for updating of road maps reflecting the current national highway network;
- Conducts research and statistical surveys on matters relevant to infrastructure planning;
- Undertakes special assignments given to the Planning Service;
- Monitor Performance Agency Indicators;
- Performs other duties and responsibilities as may be assigned.

(3) **PMO-Feasibility Studies**: This office is assigned to conduct/supervise FS of major foreign-assisted and locally-funded road and expressway projects; and assist the PS and PMO-BOT in preparing project proposals for ODA financing.

Per Department Order Number 16, Series of 1982, the full functions and responsibilities of PMO-FS, through its Project Manager, are as follows:

- Direct & supervise the overall conduct of required feasibility studies of MPWH (DPWH) projects that maybe assigned by the Minister (Secretary) including those required for foreign financing and inter-agency studies;
- Coordinate closely with the Planning Service of the MPWH (DPWH) pertaining to the conduct of the project feasibility studies as well as the overall plans and programs for the infrastructure projects;
- Recommend priorities indicating optimum time framing for the investments required on a total or staged scheme based on the findings of the feasibility studies;
- Formulate, in coordination with the Planning Service, policies pertaining to the preparation and conduct of project feasibility studies in the Regional, District/City Offices under MPWH (DPWH);
- Manage the disbursement of funds as maybe provided for individual project studies assigned to the PMO-FS, including loan/grant drawdowns of local and/or foreign consultancy services, as authorized by the Minister (Secretary);
- Assists in the negotiations of loans and grants for technical assistance for project feasibility studies;
- Exercise such other functions as maybe assigned by the Minister (Secretary);

To achieve its mandate, the technical tasking within the organization is subdivided into two (2) teams, each having the following major area of specialization:

Economic Staff

- Undertake economic feasibility studies in accordance with generally accepted standards utilizing sound economic evaluation procedures and practices, specifically to rationalize the various investment options available to the economic development planners. These procedures includes the following:
  - Assessment of the general economic conditions and the different impacts on the development potentials within the broad zones of influence of the individual projects such assessment taken within the context of the regional and overall national economic development;
  - Determine, through rigid economic and technical analysis, the optimum level of improvements and timing of construction as indicated by economic feasibility criteria such as the project Net Present Worth, the Economic Rate of Return and Benefit/Cost ratio;
  - Assessment of the environmental and socio impacts of the transport infrastructure development projects;

- Undertake continued research and socio- impacts survey required for an effective and responsive road transport and other public works development planning;
- In coordination with the Planning Service, establish procedures and prepare guidelines and methods of economic feasibility studies for the guidance of DPWH Regional and District planning staff and other units;
- Coordinate with other offices of the DPWH and other government agencies and instrumentalities concerned with development planning;
- Prepare terms of reference, liaise with consultants undertaking feasibility studies and as maybe necessary, provide counterpart staff to expatriate consultants to the DPWH;
- Perform such other related functions as maybe assigned.

Engineering Staff

- Undertake preliminary engineering studies utilizing sound and acceptable practices and methods suitable for feasibility studies which include but not limited to:
  - Investigation and identification of alternative engineering solutions in line with the objectives of the project;
  - Preparation of preliminary engineering plans, layouts and designs on the basis of technical investigations and studies carried out for each identified alternative;
  - Determination of construction items and preparation of estimates of principal quantities and project costs at a feasibility level accuracy of + 20 percent;
  - Initiate and conduct field investigations as maybe necessary to come up with the most appropriate technical solution.
- Provide as may be necessary technical counterpart staff to consultants undertaking project feasibility studies with the DPWH;
- Coordinate with the concerned Bureaus, Services, Project Implementation and Field (Regional, District/City) Offices of the DPWH and other Agencies in the conduct of the technical studies and investigations being carried out an specific projects;
- In coordination with the Planning Service; establish procedures and prepare guidelines for the purpose of disseminating to the DPWH Field Offices current methods of carrying out technical investigation and preliminary engineering studies in relation to project feasibility studies;
- Perform such other related functions as may be assigned.

Support unit, namely Administrative and Financial Management Staff are given the following functions:

- Provide effective and efficient administrative management support necessary in the prosecution of project feasibility studies particularly on evaluation, selection/recruitment and adequate provision of qualified personnel for the PMO, and provisions of financial, sectoral, clerical, messengerial, janitorial and security services;
- Act on all day-to-day administrative matters pertaining to personnel welfare and requirements such as attendance, leave of absence, appointments, transfers, resignations, security and other personnel transactions, management of the existing physical resources of the PMO, and provide timely financial management support to PMO operations;
- Initiate preparation of documents pertaining to consultancy services regarding any financial transaction with the PMO such as payrolls and travelling expenses vouchers, requisitions and purchase orders, payment vouchers to suppliers and creditors, billing of consultancy or contract services and other financial transactions;
- Maintain records of all official communications and transactions relating to the PMO activities including periodically updated inventory of all equipment, furniture, facilities as well as procurement and disbursement of supplies and materials for office needs;

- Record and maintain separate book of accounts of fund released for each project implemented by the PMO and prepare the required financial report, operating budgets, budget proposals, etc.
- Coordinate and provide liaison works with other government offices concerned in relation to administrative and financial operations of the PMO-FS;
- Perform such other related functions as may be assigned.

(4) **Bureau of Design (BOD)**: This Bureau is mandated to set engineering design standards; conduct/supervise/review/approve engineering surveys, designs and construction plans of roads/ expressways, including specifications, quantity estimates and tender documents for roads and expressways.

Section 19 of Executive Order No. 124, dated January 30, 1987, entitled "Reorganizing the Ministry of Public Works and Highways, redefining its powers and functions, and for other purposes" reorganized the Bureau of Design to ascertain that all government infrastructure project implementation plans and design are consistent with current standards and guidelines.
The organization is divided into nine divisions. Its division's respective duties and responsibilities are as follows:

- Conduct or initiate, supervise and/or review the result of field surveys for highways, flood control and water resources development systems, and other public works projects, including aerial, hydrographic, topographic, geotechnical, and other investigations;
- Conduct or initiate, supervise and/or review the preparation of schemes, design, specification, estimates, tender contract documents covering the architectural, structural, mechanical, electrical and other technical design aspects of highways, flood control, and other projects of the Ministry or of other ministries upon request or agreement;
- Review and evaluate the design, specifications, estimates tender and contract documents covering the architectural, structural, mechanical, electrical and other technical design aspects of public works projects of all agencies in accordance with current standards and guidelines;
- Provide technical assistance in the selection of firms or entities that shall undertake actual construction of public works projects via participation in the technical evaluation aspect of the bidding/award process; and
- Perform such other related duties and responsibilities as maybe a assigned or delegated by the Minister or as maybe required by law;

Survey and Investigation Division

- Undertake civil engineering surveys and mapping such as topographic/ hydrographic/ river/ location/ aerial/ and flood damage surveys for overall or system-wide public works/ highways projects;
- Undertake hydrologic investigations of basin-wide river system for flood control, drainage, water resources systems development projects, bridge and other public works projects;
- Undertake geologic/ geotechnical investigations;
- Analyze and compile hydrologic data such as rainfall/ stream flow/ ground water flow needed for the estimate of design discharge/volume of flow/reservoir capacity, as well as sedimentation;
- Asses and analyze foundation, embankment and cut slope problems; investigate and propose mitigation control of landslide, and related mess movements, subsidence and settlement;
- Prepare cost estimates and programs of works for the afore-cited surveys and investigations;
- Perform other related functions as may be assigned;

Hydraulics Division

- Formulate basic policies design criteria/standards and specifications for flood control drainage, water supply and related projects assigned to the Bureau;

- Design and prepare contract drawings for flood control and drainage projects, waterworks systems and related appurtenances / component structures;
- Undertake hydraulic studies of flood control an drainage structure and drainage structures and water works systems, including bridges;
- Review/evaluate contract drawings, specifications, estimates and related tender documents including variation orders for the afore-cited projects;
- Evaluate permit applications for private flood control and drainage projects and construction of structures along banks of defined water courses;
- Perform other related functions as may be assigned;

Highways Division

- Develop appropriate standards, criteria and procedures for the design of highway projects and other related transportation facilities;
- Initiate, conduct, supervise and/or review the design of highway projects and other related transportation facilities including the geometrics, pavements, drainage facilities, traffic engineering design and related elements;
- Review, evaluate plans, specifications, and tender documents as well as variation orders, prepared by region/district/city engineering offices, and private consultants and submit for approval;
- Prepare design analyses, drawings, specifications quantity and cost estimates and tender documents of highway projects;
- Develop new and improved design methods and techniques including system utilizing computer technology;
- Provide guidelines and develop policies and standards in coordination with other government agencies for consideration of non-motorized facilities as an integral part of the total transportation system;
- Perform other related functions as maybe assigned;

Bridges Division

- Formulate design guidelines/standards regarding nationwide bridges;
- Design and prepare contract drawings, specification, estimates and related tender documents for the proposed construction, widening or rehabilitation of bridges;
- Review, evaluate design analysis, computation, plans, specs and related tender documents of nationwide bridges prepared by Regional, District and City Engineering Offices, and private consultants which are submitted for approval;
- Review and evaluate pile driving data, shop drawings, cofferdams and erection schemes for proposed bridges;
- Conduct field inspections to check final plan for proposed bridges with actual site conditions;
- Issue permits for heavily loaded trucks to travel and for attachment of utility pipes on bridges;
- Perform other related functions as maybe assigned;

Architectural Division

- Formulate guidelines/criteria/standards for the architectural design of public buildings and related structures;
- Prepare architectural designs, specifications, cost estimates and related tender documents for proposed construction, renovation or repair of public buildings, hospitals, sanitaria, multi-purpose buildings, gymnasia, theaters, and related structures;
- Coordinate/consolidate contract drawings such as architectural, sanitary, structural, electrical and mechanical plans preparatory to the approval thereof;
- Review/evaluate architectural, sanitary/ plumbing plans prepared by the District/ City/ Regional/ PMOs, other agencies and private consultants and submitted for approval;

- Provide technical assistance in the selection/hiring of consultants and in the preparation of consultancy agreements;
- Provide technical expertise in the resolution of arising;

Structural Division

- Conduct and initiate, supervise and/or review the results of field surveys for buildings, harbors and coastal facilities and other related structures;
- Conduct or initiate, supervise and/or review the preparation of schemes, working drawings, specifications, estimates, tender contract documents covering the structural and other technical design aspects of buildings, harbors and coastal facilities and other related structures for the Department or of other government agencies upon request agreement;
- Review and evaluate the designs, specifications estimates, tender and contract documents covering the structural and other technical aspects of buildings, harbors and coastal facilities and other related structures of all agencies to ascertain that they are in accordance with current standards and guidelines;
- Provide technical assistance in the selection of firms or entities that shall undertake actual construction of buildings, harbors and coastal facilities and other related structures via participation in the technical evaluation aspects of the bidding/award process;
- Perform other related functions as may be assigned;

Mechanical & Electrical Division

- Formulate guidelines/criteria/standards for the design of the mechanical and electrical requirements of public buildings and public works projects;
- Prepare plans, specifications, cost estimates and related tender documents for public structures requiring mechanical facilities and electrical installations;
- Check/review mechanical / electrical plans, specifications, cost estimates and related tender documents submitted by the District/City/Regional/PMOs, other agencies and private consultants and submitted for approval;
- Provide technical assistance to other agencies relative to projects involving mechanical and electrical works;
- Provide technical services in the enforcements / implementation of the National Building Code in so far as the mechanical/electrical installations/systems/equipment are involved;
- Perform such other related functions;

Special Systems Analysis & Design Division

- Undertake the development, management and implementation of Computer Aided Design and Drafting including preparation of tender documents of all categories of infrastructure projects undertaken by the Department;
- Customize CADD and other available softwares to suit local conditions and update the systems in accordance with the latest developments in technology;
- Provide in house technology transfer on CADD to other BOD Divisions and support to Administrative and Manpower Management Service (AMMS) for the training of DPWH Regional / Project Management / District Offices; and
- Perform other related functions as may be assigned;

Contract Management Division

- Provide services in the engagement of consultants for infrastructure projects;
- Manage the contract therefore;
- Monitor/evaluate Consultant's work performance;
- Automate contract documentation;
- Provide support to Administrative and manpower Management Service (AMMS) in the conduct of seminars on Contract Administration; and
- Perform other related functions as maybe assigned.

(5) **Environmental and Social Services Office (ESSO)**: This Office is involved in preliminary planning activities related to Environmental Impact Assessment (EIA), Social Impact Assessment (SIA), Rapid Social Assessment, Resettlement Action Plan (RAP); conduct public consultations on PPP projects; conduct Information, Education and Communication (IEC) on environment-related concerns; and compliance and effects monitoring of ECC conditions and Environmental Management Plan (EMP).

Per Department Order Number 220, Series of 1999; as amended by Department Order Number 58, Series of 2004, the functions and responsibilities of PMO-ESSO are as follows:

- Conduct assessments for environmental, social impact and land acquisition;
- Prepare relevant report such as Initial Environment Examination (IEE), Environmental Impact Statement (EIS), Environmental Management Plans (EMP), Resettlement Action Plan (RAP) and other necessary documents;
- Facilitate consultation and information dissemination to project affected persons and other relevant stakeholders;
- Conduct environmental monitoring; Monitoring RAP implementation and conduct post implementation evaluation;
- Provide guidance to regional and district level DPWH staff and local authorities in carrying out the above studies, preparation of documents and RAP implementation;
- Providing training at regional, district and local level for consultation/participation, RAP implementation, environmental management planning, environmental monitoring, EIA tools and other new techniques;
- Maintain and update the existing data bank and Geographical Information System (GIS);
- Coordinate environmental concerns with other DPWH offices, Government Agencies, Local Government Units and Non Government Organizations.

Distributions of task with the organization are geographically assigned to the three Divisions, they are as follows:

Team A	**Team B**	**Team C**
▪ Region III,	▪ Region CAR	▪ Region II
▪ Region IV-A	▪ Region I	▪ Region V
▪ Region IV-B	▪ Region IX	▪ Region VIII
▪ Region VI	▪ Region XI	▪ Region X
▪ Region VII	▪ Region XII	

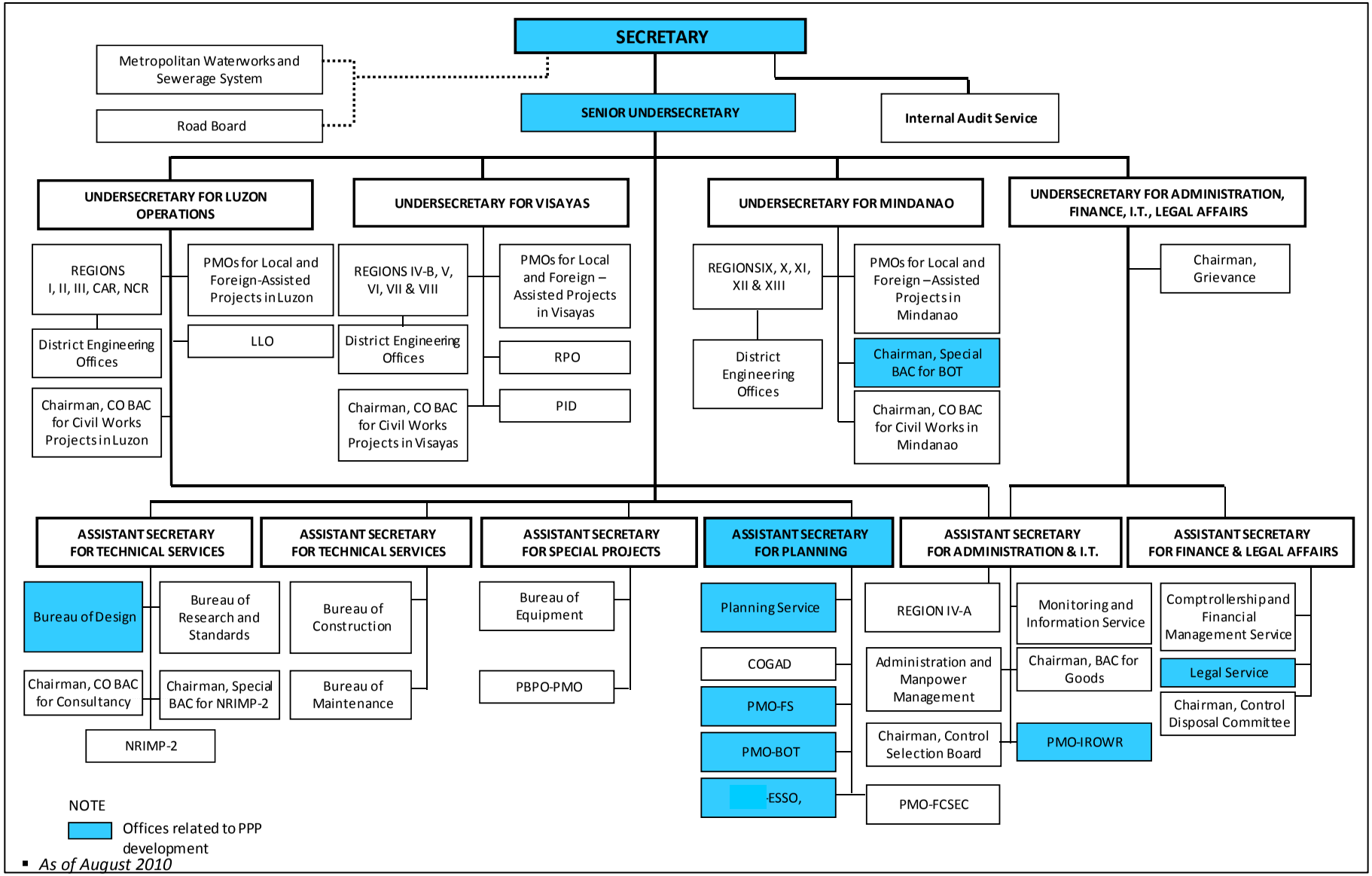
(6) **PMO-Infrastructure Right-of-Way and Resettlement (PMO-IROWR)**: This Office is tasked to consult with LGUs, local communities, project affected persons, and the designer/contractor for PPP projects; coordinate with the Presidential Commission for the Urban Poor (PCUP) and the National Housing Authority (NHA) on the relocation of squatter families; conduct census and tagging of affected lots and improvements; coordinate with the Bureau of Internal Revenue or BIR (for zonal valuation), Registry of Deeds (for titles), Assessor's Office, and Department of Agrarian Reform or DAR (for land conversion); coordinate and negotiate with affected property owners on the sale of their properties; coordinate with the Office of the Solicitor General (OSG) for filing of expropriation proceedings; and effect payment of affected properties.

It appears that the functions and activities of the abovementioned offices pertaining to PPP overlap, and it is difficult to bring together and coordinate their activities. There is no designated single focal point or one-stop shop for PPP transactions at DPWH.

The PMO-BOT, which is supposed to handle or coordinate all PPP related activities of DPWH, from planning to implementation and operation, does not have sufficient authority and staff to fully execute its mandated functions. The preparation of PPP proposals has often been done on an ad hoc project-to-project basis with many players participating.

Per Department Order Number 5, Series of 2003, the functions and responsibilities of PMO-IROW are as follows:

- Prepare the Action Plan and monitor the process of implementation of the new Infrastructure Right of Way (IROW) process;
- Continue with the existing functions of PMO-Action Office for Resettlement of Squatter Families (PMO-AORSF) and PMO-Manggahan Floodway;
- Assist all Implementing Office (IO) in the implementation of the improved ROW policies, processes, and procedures;
- Supervise the improved ROW process in all IO;
- Coordinate with the BIR, Appraisal Committees, and other appropriate agencies for upgrading of valuations;
- Coordinate with appropriate government agencies and the private sector, particularly the utility companies, among others, to ensure the successful implementation of the improved ROW process;
- Consolidate and validate the monthly ROW monitoring reports for submission to the Secretary;
- Consolidate and validate the summaries of payment made by the IO and submit a report to the Secretary;
- Prepare other guidelines needed to clarify issues that may arise from the implementation of the improved process;
- Implement the computerization of ROW Management System once it has been developed or purchased;
- Ensure the proper record keeping of all relevant documents and the archiving of titles with the National Archives;
- Prepare Quarterly Reports for submission to the Secretary;
- Perform other duties as maybe assigned by the Secretary;



▪ *As of August 2010*

Source: DPWH website

FIGURE 2.3.2-1 ORGANIZATION CHART OF DPWH

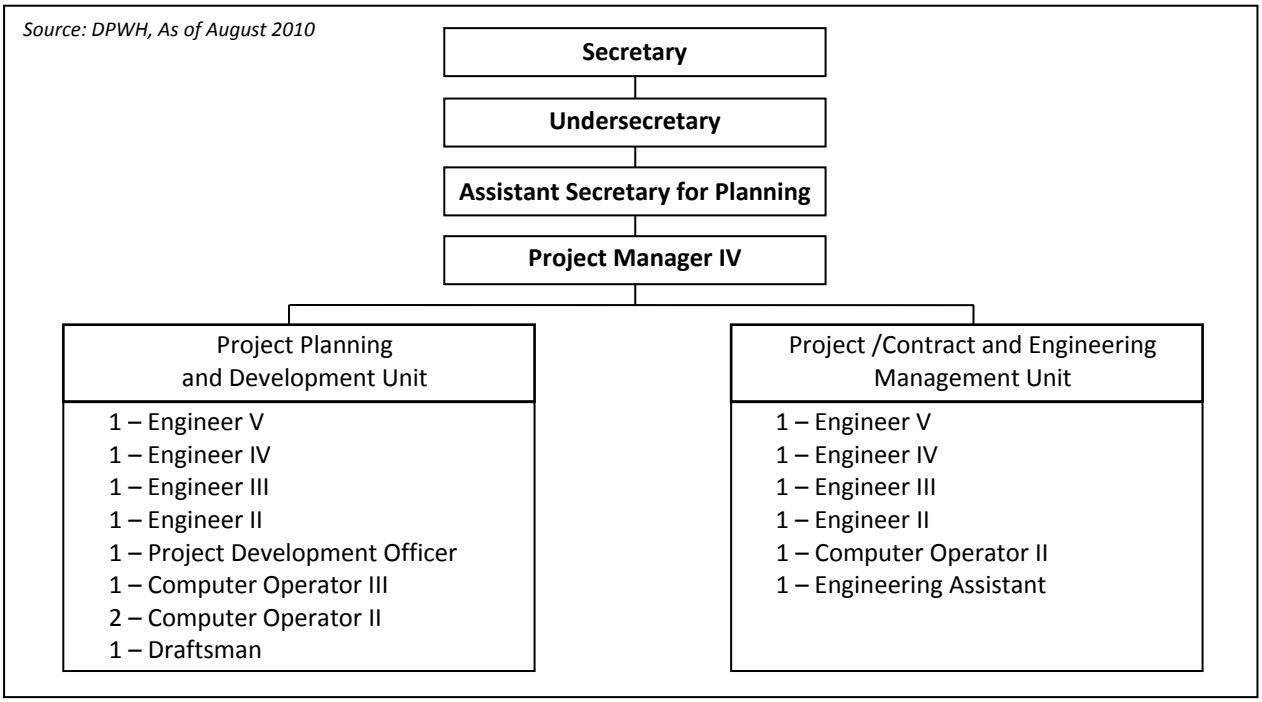


FIGURE 2.3.2-2 BUILT-OPERATE-TRANSFER (BOT-FS) ORGANIZATIONAL CHART

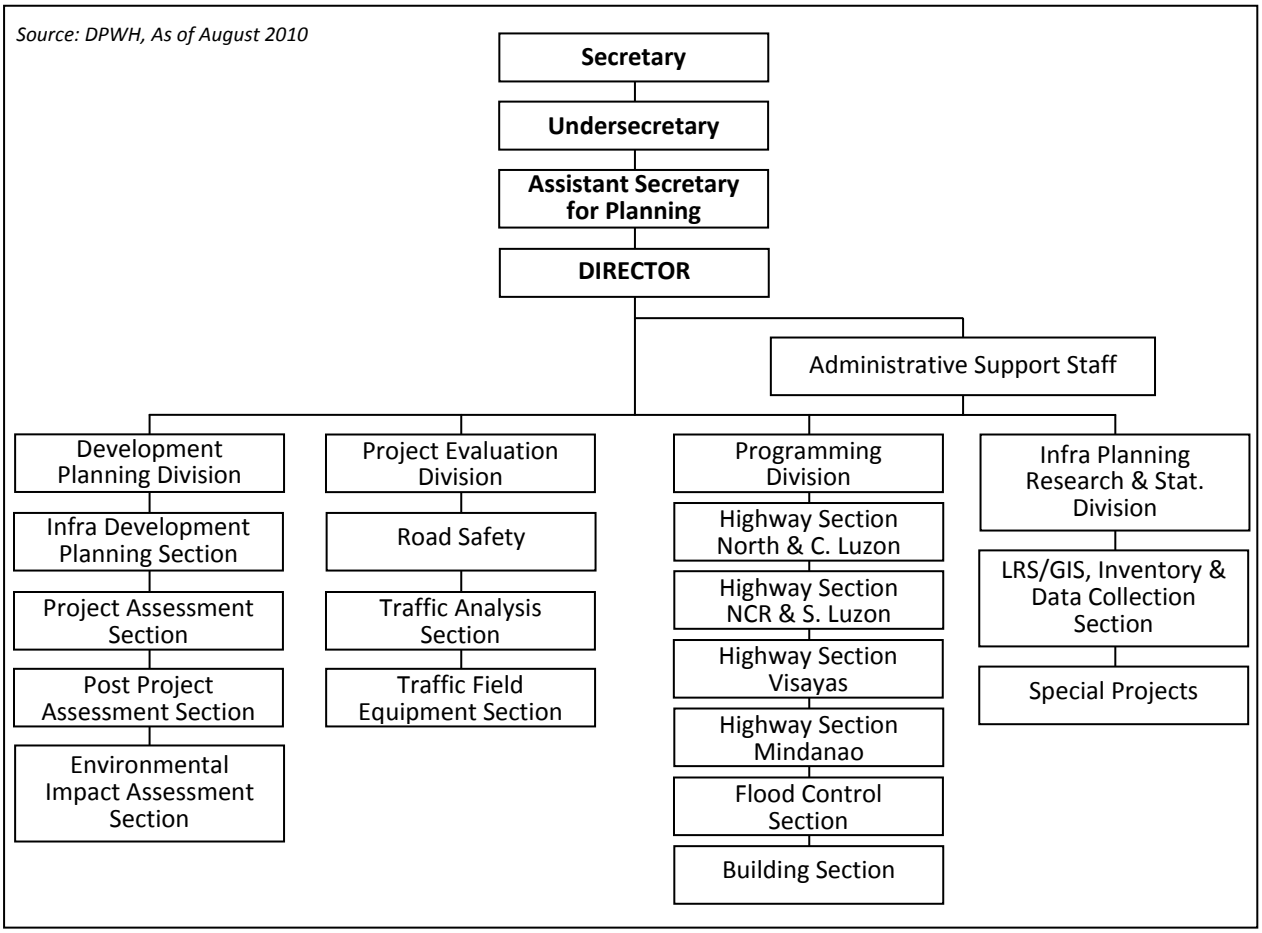


FIGURE 2.3.2-3 PLANNING SERVICE (P S) ORGANIZATIONAL CHART

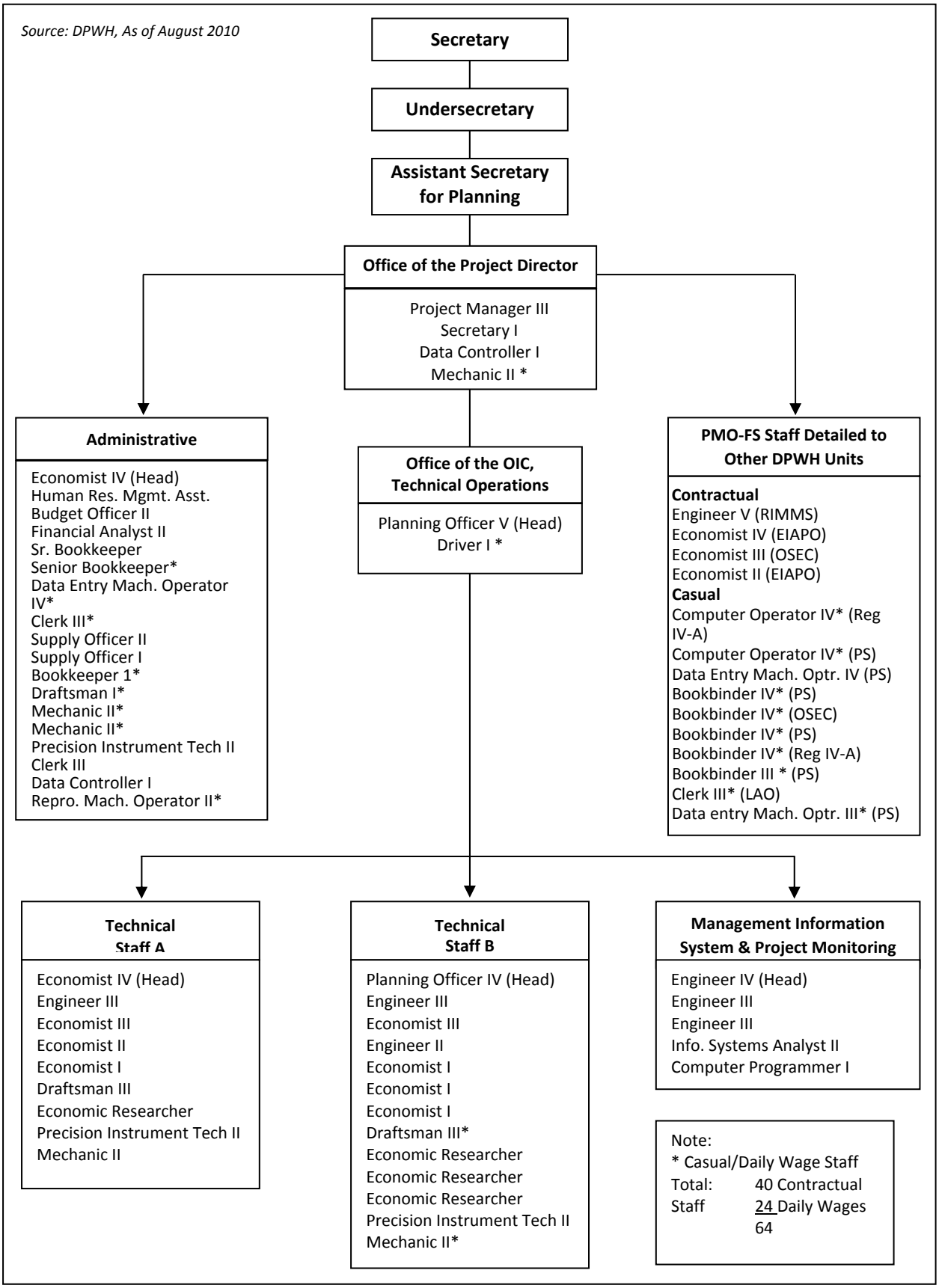


FIGURE 2.3.2-4 PROJECT MANAGEMENT OFFICE (PMO-FS) ORGANIZATIONAL CHART

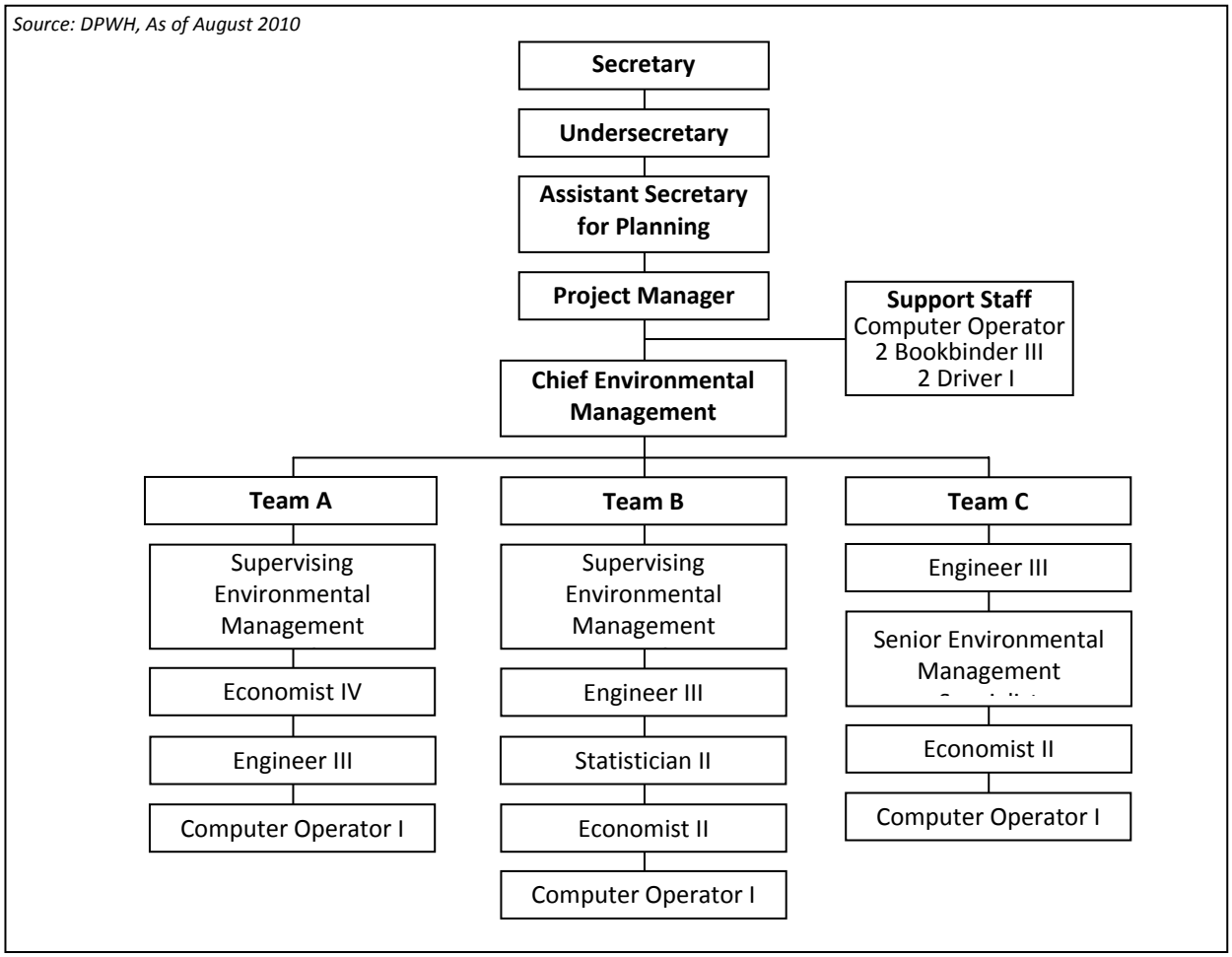


FIGURE 2.3.2-5 ENVIRONMENTAL SOCIAL SERVICES OFFICE (ESSO) ORGANIZATIONAL CHART

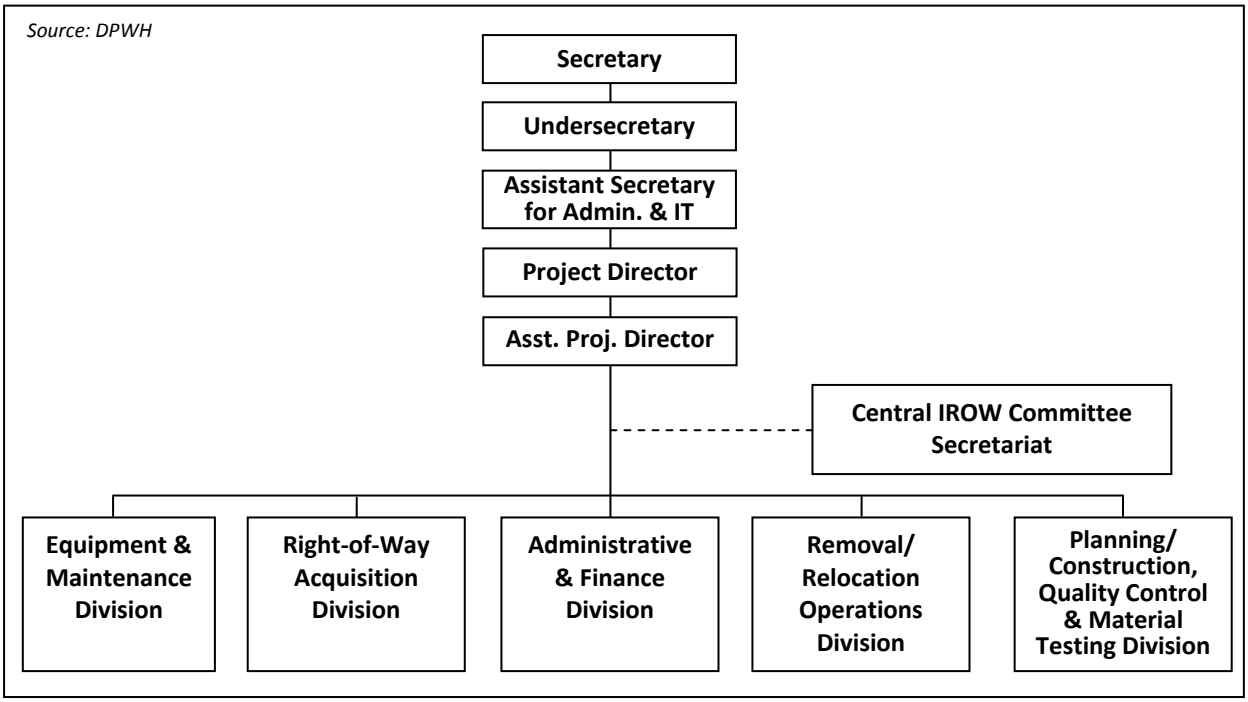


FIGURE 2.3.2-6 INFRASTRUCTURE RIGHT-OF-WAY (IROW) ORGANIZATIONAL CHART

2.3.3 National Road Network

The total length of the national road which is composed of the (i) North-South Backbone, (ii) East-West Lateral and (iii) Other Road of Strategic Importance is about 15,730 km.

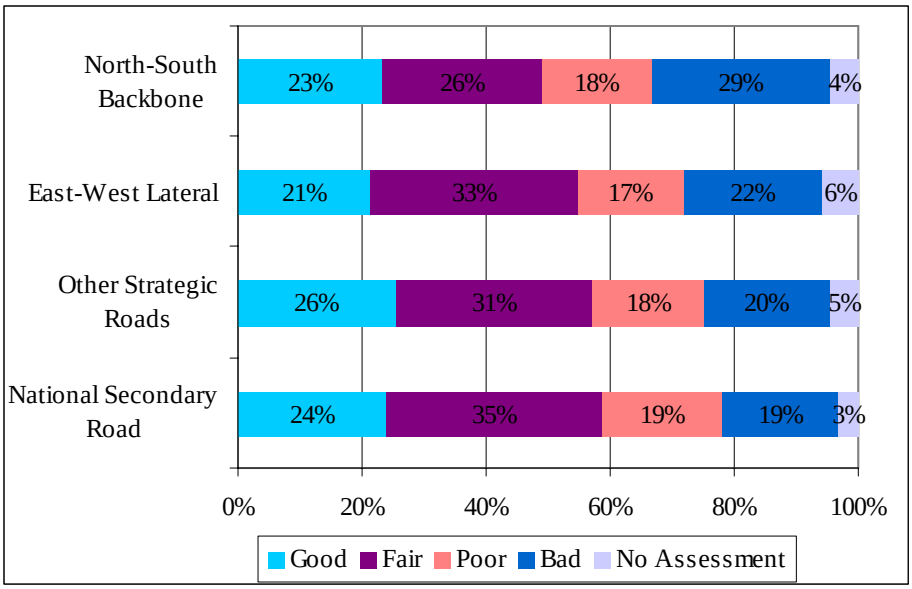
On the other hand, the National Secondary Road has a length of around 14,167 km. The condition of the national road is shown in the figure below. As seen in the figure, substantial portion of national road is in poor and bad condition.

TABLE 2.3.3-1 LENGTH OF NATIONAL ROAD (2009)

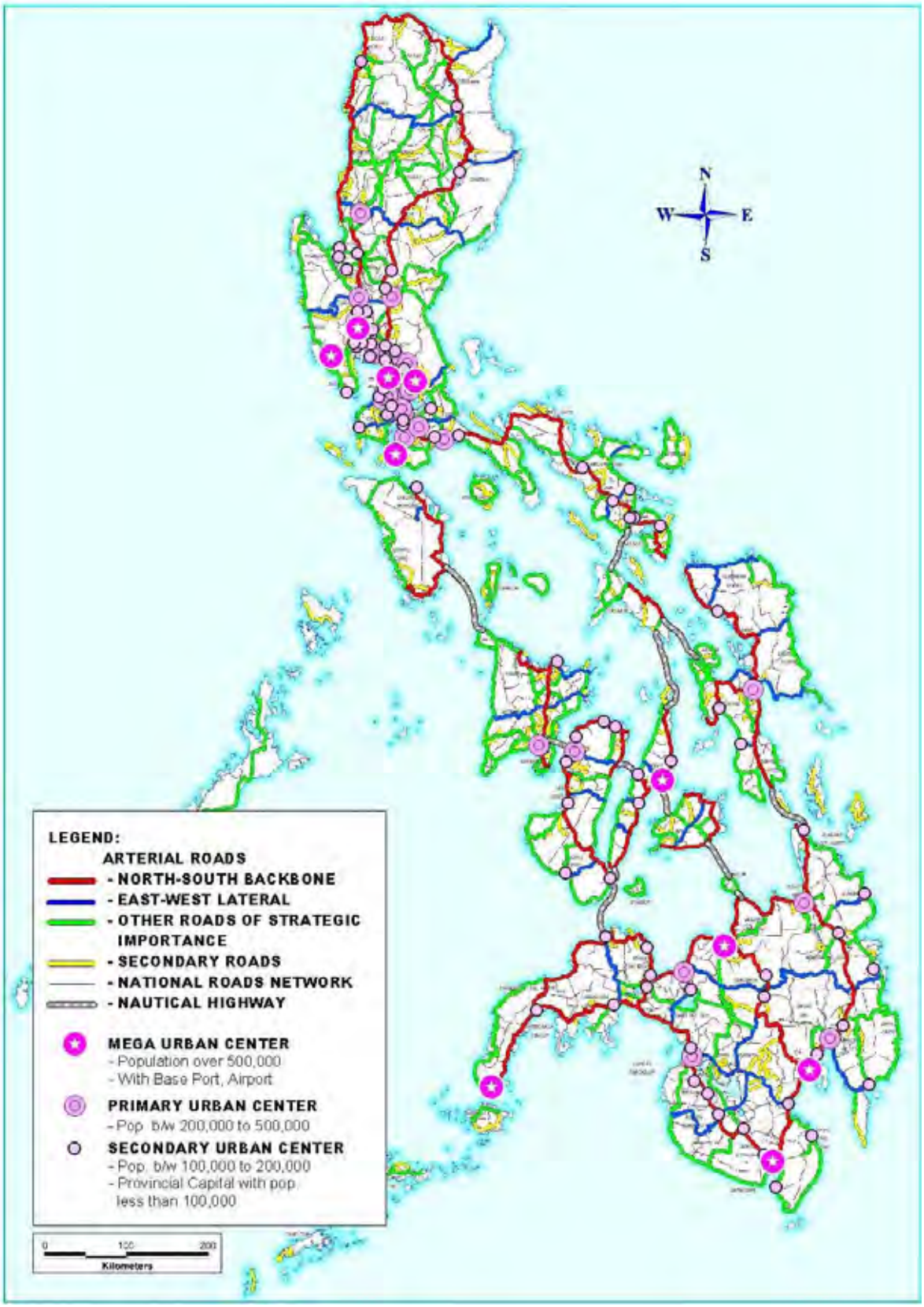
Road Classification	Length (Km)
▪ North-South Backbone	5,297.06
▪ East-West Lateral	2,965.42
▪ Other Strategic Road	7,468.09
▪ National Secondary Road	14,167.44
Total	29,898.01

Source: DPWH Atlas (2009)

FIGURE 2.3.3-1 CONDITION OF NATIONAL ROAD (2009)



Source: DPWH Atlas (2009)



Source: Prepared by the Study Team based on the data of DPWH Atlas (2009), NSCB (2008)

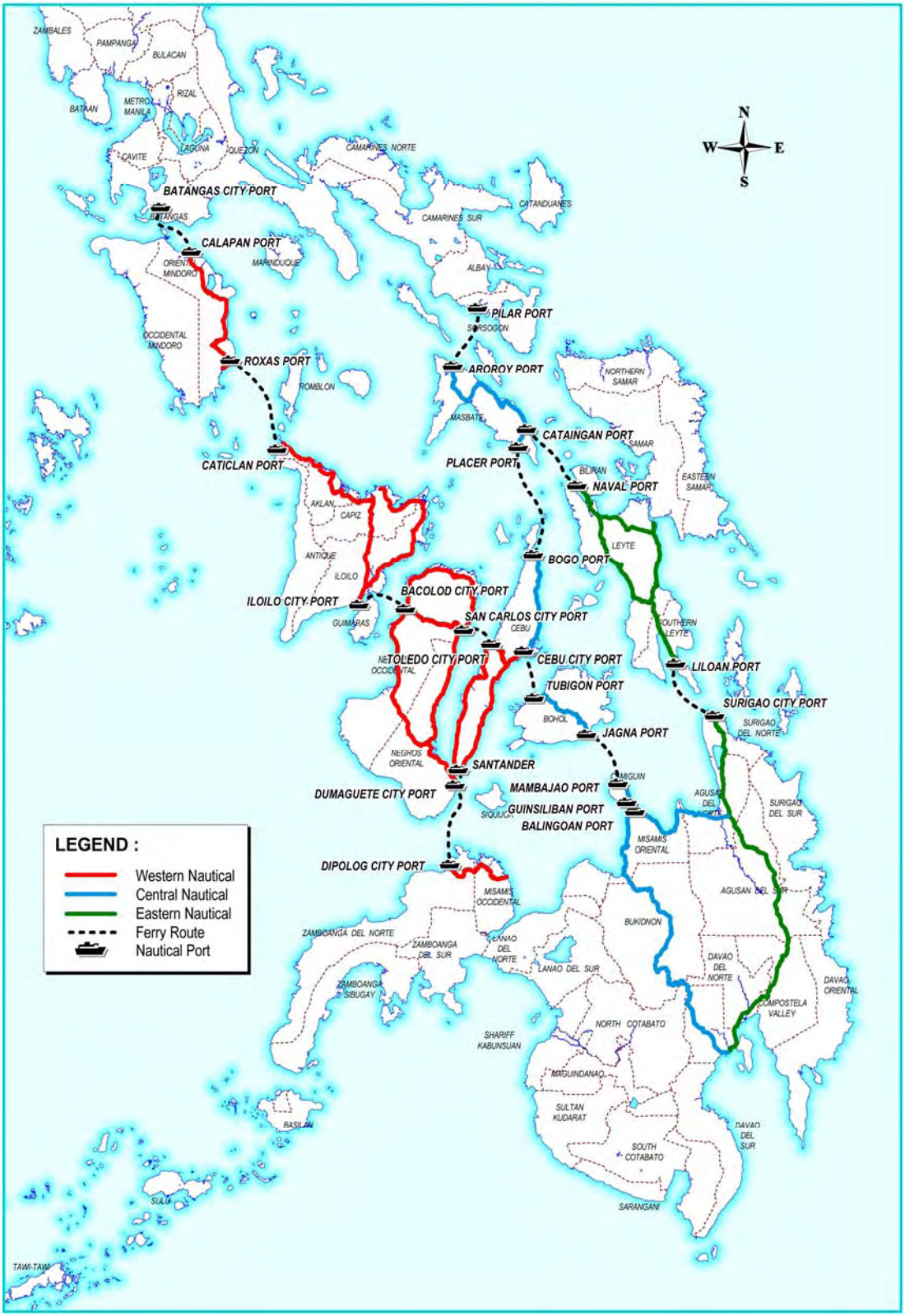
FIGURE 2.3.3-2 FUNCTIONAL ROAD CLASSIFICATION

2.3.4 Nautical Highway Network System and Asian Highway

The Nautical Highway is an integrated set of highway segments and vehicular ferry routes, which forms backbone of a nationwide vehicle-accessible transport system. The Nautical Highway System consists of three major routes, namely Central Nautical Highway, Eastern Nautical Highway and Western Nautical Highway as shown in **Figure 2.3.4-1**. Its roles are:

- To reduce travel time to the key cities,
- To enhance the accessibility of the prime tourist destinations, and
- To minimize the handling expenses of goods all over the country.

Figure 2.3.4-2 indicates the Asian Highway routes passing through the Philippines, which consist of the North-South Back Bone in the country.



Source: Prepared by the Study team based on the DPWH Atlas, 2007

FIGURE 2.3.4-1 NAUTICAL HIGHWAY SYSTEM

Source: Prepared by the Study team based on ADB's Asian Highway map

FIGURE 2.3.4-2 ASIAN HIGHWAY (AH26) PHILIPPINES

2.3.5 Road Transport Problems

Based on the data of DPWH Atlas (2009), the following problems are identified:

- 26.89% which represents 7,973 km of the national road (national primary and national secondary road) is still unpaved; 5,785 (19.35%) of paved national road is in bad condition.
- Regarding the status of national primary road: 2,510 km (8.48% of the national road) is still unpaved which is either gravel or earth surface; 3,579 (11.97% of the national road) of paved national primary road is in bad condition.
- Regarding status of national secondary road: 5,459 km (18.36 of national road) is still unpaved; 2,206 km (11.97% of the national road) of paved national secondary road is in bad condition.

2.3.6 Road Network Development Goals, Policies and Strategies

The MTPIP (2011-2016) enumerated road development policies as follows:

Road Development Policies of Transport Infrastructure

- Upgrading the national road network in terms of quality and safety standards with focus on urban centers and strategic tourism destinations;
- Completion of critical bridges along national roads;
- Develop more Public-Private Partnership (PPP) projects for much needed infrastructure and level playing field for investments;
- Address private sector concerns – Transparency, RROW, regulatory risks and government support;
- Pursue contracts for long term maintenance period (5-10 years) in road and bridge construction; and
- Introduce innovative technology such as bio-engineering for road slope protection

The institutional policy reforms of the DPWH are as follows:

Institutional Policy Reforms of the DPWH

- Full transparency and accountability to the people to curb corruption.
- Change in culture and values of employees and engage the public that deal with DPWH – contractors, politicians, LGUs and general public – to share the new vision and mission of President Aquino.
- Optimize the budget through prudent and objective selection of projects to ensure desired social outcomes.
- Open competitive public bidding/simplify bidding and award process.
- Tighten quality control and assurance in project implementation.
- Engage the public/civil society in governance, monitoring and feedback.

2.3.7 Proposed Road Projects

TABLE 2.3.7-1 PROPOSED ROAD PROJECTS

PROJECT TITLE/DESCRIPTION	IMPLE-MENTING AGENCY	INVESTMENT REQUIREMENT IN PHP MILLIONS				
		2011	2012	2013	2013-2016	TOTAL
ROADS						
ONGOING						
24th Yen Japan Bank for International Cooperation (JBIC) Arterial Road Links Development Project, Phase V Loan No. PH-P217	DPWH	238.75	0	0	0	238.75
24th Yen Japan Bank for International Cooperation (JBIC) Rural Road Network Development Project, Phase III PH-P220Boundary Antique / Iloilo-Anini-y-V. Jimenez Road, Antique	DPWH	70.02	0	0	0	70.02
26th Yen Japan Bank for International Cooperation (JBIC) Loan Package Loan No. PH-P236, Arterial Road Bypass Project Phase I, Plaridel Bypass and Cabanatuan Bypass	DPWH	1072.95	106.62	0	0	1179.57
National Roads Improvement Management Project, Phase 2 (NRIMP-2), International Bank for Reconstruction and Development (IBRD)	DPWH	6239.63	11.35	0	0	6250.98
Mega Bridges for Urban and Rural Development formerly Tulay ng Pangulo sa Kaunlaran, Phase II	DPWH	500	324.21	425	0	1249.21
Tulay ng Pangulo sa Kaunlaran Project UK-assisted Phase I	DPWH	625	575	0	0	1200
DPWH Bridge Construction/Replacement Project Under Spanish Government Financing Facility	DPWH	473.92	0	0	0	473.92
PROPOSED						
JICA Road Enhancement Asset Preservation Management Program (REAPMP) -	DPWH	4408.65	4683.82	4337.17	3920.4	17350.04
Asian Development Bank (ADB) Road Sector Improvement Program (RSIP) Tranche 1	DPWH	3245.01	280.59	538.9	0	4064.5
Asian Development Bank (ADB) Road Sector Improvement Program (RSIP) Tranche 2	DPWH	7653.66	11043.78	9633.12	8134.99	36465.55
Asian Development Bank (ADB) Road Sector Improvement Program (RSIP) Tranche 3	DPWH	981.82	0	0	15546.43	16528.25
Millennium Challenge Corporation (MCC) Secondary National Road Development Project (SNRDP)	DPWH	245	670	914.35	5620.16	7449.51
Saudi Fund for Development (SFD), Phase II	DPWH	391.91	590	820	4,142.41	5944.32
Kuwait Fund for ARAB- Economic Development (KFAED)	DPWH	362.72	980	1,470.00	8,697.24	11509.96
Qatar Assisted Projects	DPWH	229	360	610	3,065.80	4264.8
Cordillera Road Improvement Project, Phase II, Bulanao-Pinukpuk Jct. (Kalinga)-Abbut-Tuao (Cagayan) Road	DPWH	10	50	100	242	402
People's Republic of China (PROC) Funded Project -	DPWH	1965.72	2750	2773.03	8770.48	16259.23
Korean Economic Development Cooperation Fund (KEDCF) Projects	DPWH	2798.3	4972.17	6086.29	6003.62	19860.38
Other Priority Road Projects	DPWH	569.87	990	1333	4286.48	7179.35
Major Inter-regional Bridge Reconstruction for Rural Development, JICA-Assisted (formerly Urgent Bridges Construction Project for Rural Dev't Phase II)	DPWH	300	200	300	1,587.50	2387.5
Rehabilitation and Maintenance of Bridges along Arterial Roads, Phase V	DPWH	56.15	80	105	155.07	396.22
Bridges for Prosperity Acceleration Project UK-assisted	DPWH	400	400	272.04	0	1072.04
Upgrading/Improvement of Mindoro West Coast Road (San Jose-Mamburao-Abra de Ilog Section) Phase II, Occidental Mindoro	DPWH	630	720	800	919.47	3069.47
Ninoy Aquino International Airport (NAIA) Expressway Phase II	DPWH	300	300	0	0	600
TOTAL ROADS		**34,393.08**	**30,662.54**	**30,517.90**	**71,092.05**	**166,665.57**

2.4 OTHER TRANSPORT SUB-SECTOR

2.4.1 DOTC and Attached Agencies' Budget

The Department of Transportation and Communications (DOTC) is composed of four (4) line/sectoral offices and fourteen (14) attached agencies. The budget of the department for the last years is shown in **Table 2.4-1**.

TABLE 2.4-1: DOTC ANNUAL BUDGET FOR THE LAST 6 YEARS

Year	Budget (Php, 000)	Growth Rate (%)
2004	8,283,399	-
2005	8,324,244	0.5
2006	8,702,885	4.5
2007	18,041,374	107.3
2008	21,942,337	21.6
2009	23,660,782	7.8

Source: DOTC

Based on the above table, the DOTC budget grows at an average growth rate of 28%. Budget of line agencies attached to DOTC is presented in the table below.

TABLE 2.4-2: DOTC'S LINE AGENCIES 2009 ANNUAL BUDGET

	Php, 000
Office of the Secretary - Proper	**15,366,767**
Osec	451,410
CAR	33,843
CARAGA	28,801
Locally-Funded Projects	11,295,774
Foreign - Assisted Projects	3,556,939
Line Agencies	**6,464,301**
Telof	1,013,366
ATO	1,607,974
LTO	1,606,695
LTFRB	178,331
PSG	2,057,665
Attached Agencies	**697,819**
CAB	40,107
NTC	194,778
MARINA	310,950
OTC	13,135
TRB	11,727
OTS	27,122
PNR	100,000
Special Projects	**1,131,895**
RLIP	236,194
MVUC	602,550
SEATBELT	33,413
NCASC FUND	259,738
TOTAL	**23,660,782**

Source: DOTC

2.4.2 Organization of DOTC and its Attached Agencies

1) DOTC Organization

The Department of Transportation and Communications (DOTC) is the biggest among the executive departments. It covers road, rail, air, water and communications sectors. To carry out its mandate, it has 14 attached agencies/corporations and 4 line/sectoral offices.

The 4 line/sectoral offices are Land Transportation Office (LTO), Land Transportation Franchising Regulatory Board (LTFRB), Philippine Coast Guard (PCG) and Telecommunication's Office (TELOF) and the 14 attached agencies are Toll Regulatory Board (TRB), Office of Transportation Cooperative (OTC), Metro Rail Transit (MRT3), Light Rail Transit Authority (LRTA), Philippine National Railway (PNR), Philippine Ports Authority (PPA), Cebu Ports Authority (CPA), Maritime Industry Authority (MARINA), Manila International Airport Authority (MIAA), Mactan Cebu International Airport Authority (MCIAA), Philippine Aerospace Development Corporation (PADC), Civil Aeronautics Board (CAB), National Telecommunications Company (NTC) and the newly created Civil Aviation Authority of the Philippines (CAAP).

The DOTC power and functions according to its mandate are the following:

1. Formulate and recommend national policies and guidelines for the preparation and implementation of integrated and comprehensive transportation and communication system at the national, regional and local levels;

2. Establish and administer comprehensive and integrated program for transportation and communications, and for its purpose, may call on any agency corporation, or organization, whether public or private, whose development progress include transportation and communications, as an integral part thereof, to participate and assist in the preparation and implementation of such programs;

3. Assess , review and provide direction to transportation and communication research and development programs of the government in coordination with other institutions concerned;

4. Administer all laws, rules and regulations in the field of transportation and communication;

5. Coordinate with the Ministry of Public Works and Highways in the design, development, rehabilitation, improvement, construction, maintenance and repair of telecommunications, ports, airports and railways project and facilities including navigational aids and implement its development works through competitive bidding, negotiated, contracts or other methods as the President may authorize;

6. Establish, operate and maintain a nationwide postal system that shall include mail processing delivery services, and money order services and promote the art of philately;
7. Sub-allocate series of frequencies of bands allocated by the International Telecommunications Union to the specific services;

8. Accredit foreign aircraft manufacturer and/or international organizations for aircraft certification in accordance with procedures and standards established by the Bureau of Air Transportation;

9. Deputize the Philippine Airlines and/or the Airline Pilots Association of the Philippines for licensing of pilots in accordance with the rules, procedures and the standards established by the Bureau of Air Transportation;

10. Perform such other power and function as may be prescribed by law.

Shown in **Figure 2.4.2-1** is the organizational structure of DOTC.

2) PNR Organization

PNR was created based on Republic Act No. 4156 enacted on June 20, 1964. On August 20, 1971, RA 4176 was amended because of its rehabilitation and selective modernization. Through Presidential Decree No. 741 on July 3, 1975, PNR raise its capital stock to Php1.5 billion.

PNR objectives are: to develop the railway system and related services towards the establishment and maintenance of a dependable, economical, safe and efficient integrated transport system in the country; to ensure efficiency in operation without sacrificing but even improving on service and utility as demanded by the riding public; to ensure maximum utilization of corporate resources; to maintain the financial viability of the corporation, enough to provide for continuous progressive growth in an accelerated improvement of all its facilities; and, to professionalize and improve a long range training program to upgrade its manpower, and to promote and enhance employees' welfare.

Illustrated in **Figure 2.4.2-2** is the organizational structure of PNR.

3) LRTA Organization

The Light Rail Transit Authority (LRTA) is recognized as the premiere rail transit in the country providing reliable, efficient, dependable, and environment-friendly mass rail services to all residents of Metro Manila. LRTA is a wholly owned government corporation created on July 12, 1980 under Executive Order (EO) No. 603, as amended by EO No. 830 dated September 1982, and EO No. 210 dated July 7, 1987. The LRTA mandate is primarily responsible for the construction, operation, maintenance and/or lease of light rail transit systems in the Philippines.

Figure 2.4.2-3 shows the organizational structure of LRTA.

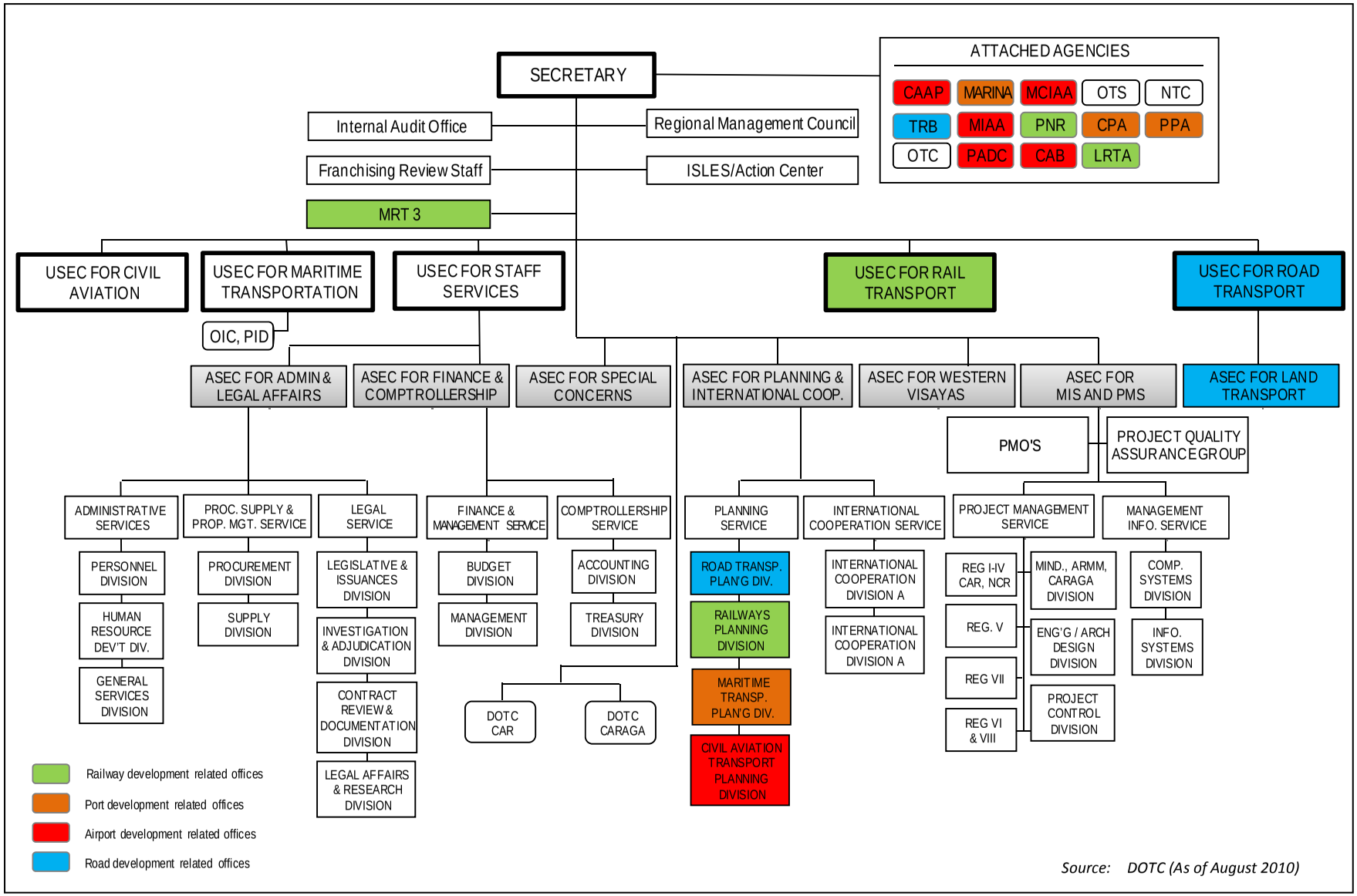
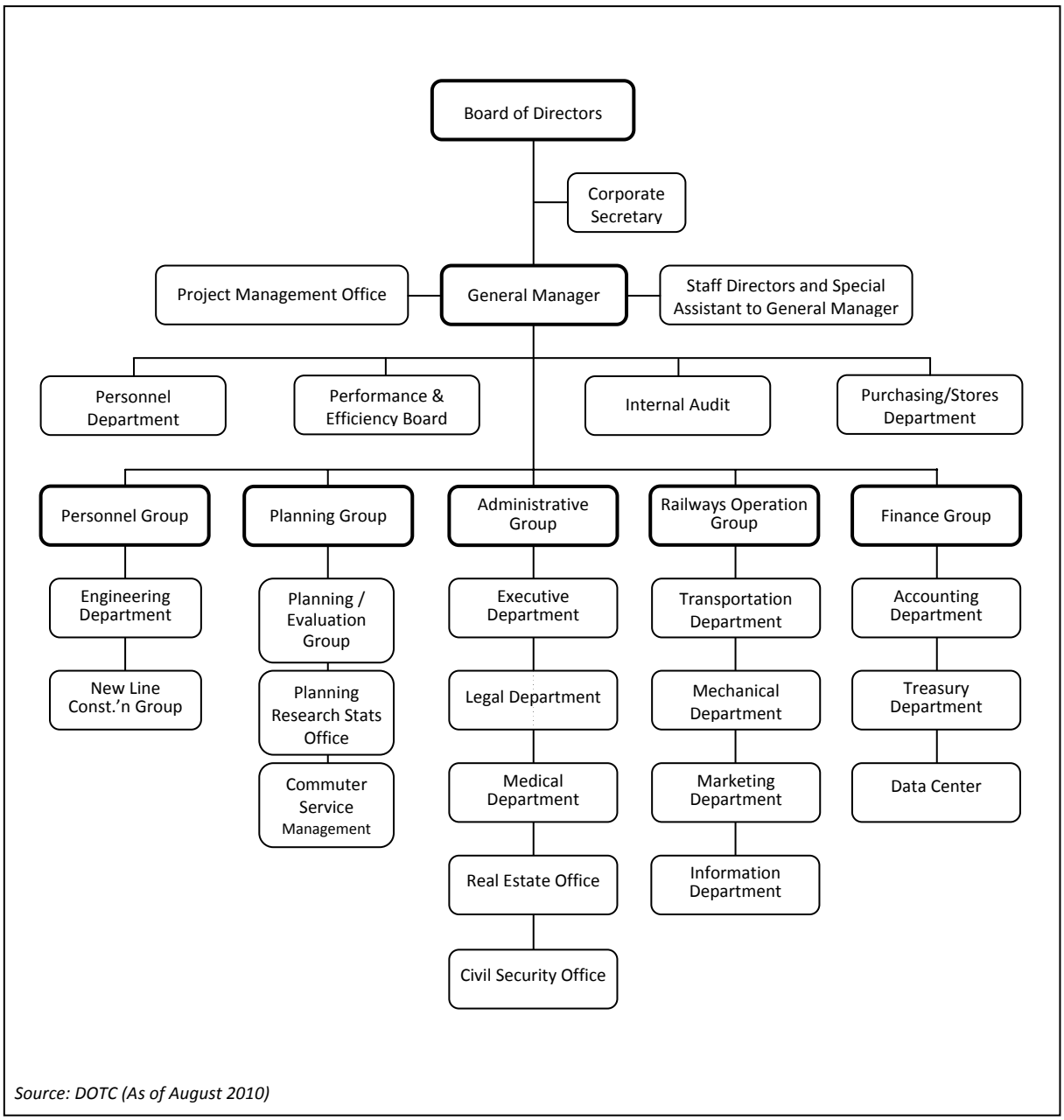
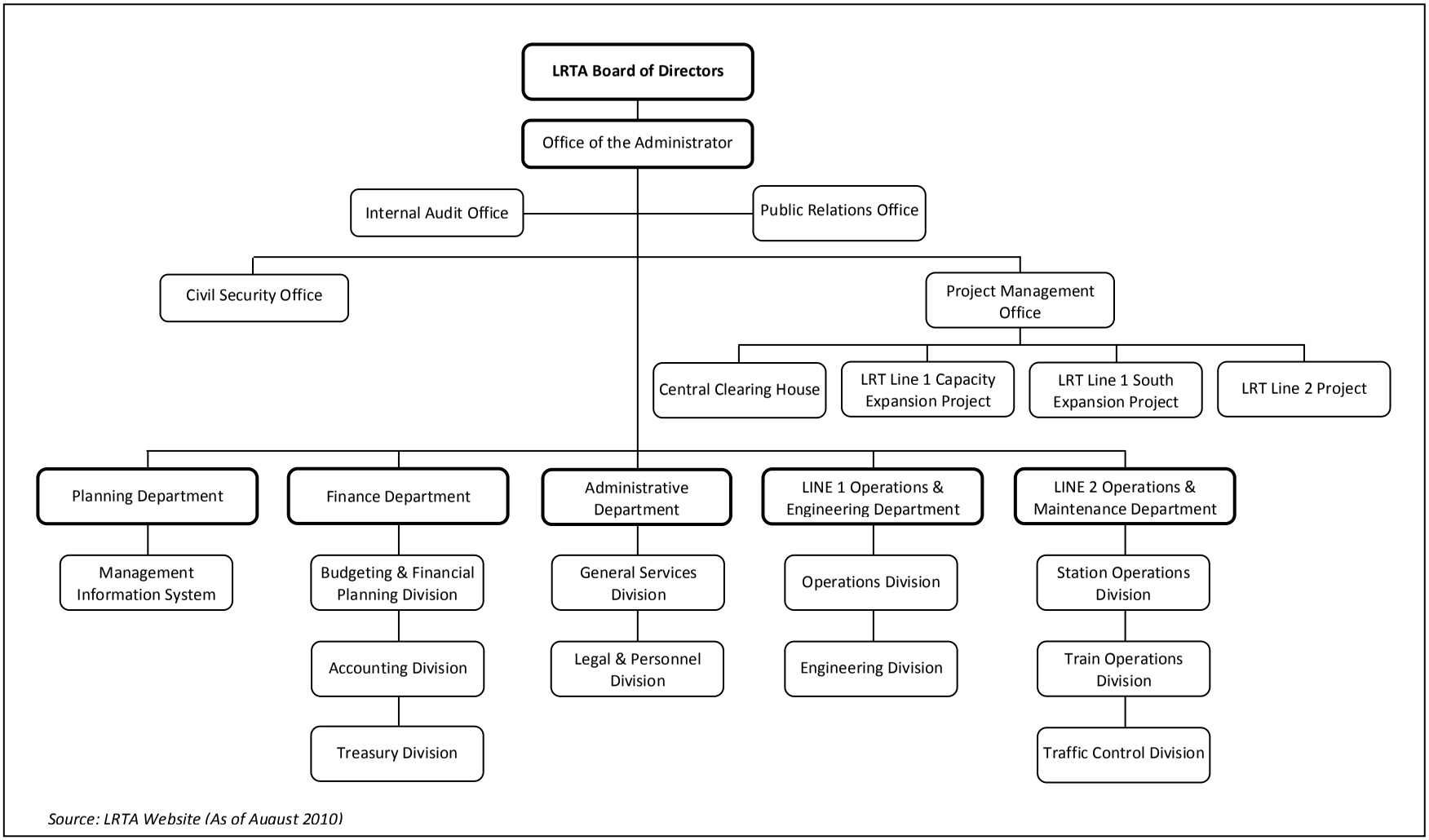


FIGURE 2.4.2-1 DOTC ORGANIZATIONAL STRUCTURE



Source: DOTC (As of August 2010)

FIGURE 2.4.2-2 PNR ORGANIZATIONAL STRUCTURE



Source: LRTA Website (As of August 2010)

FIGURE 2.4.2-3 LRTA ORGANIZATIONAL STRUCTURE

4) PPA Organization

Philippine Ports Authority was created under Presidential Decree No. 505 which was subsequently amended by P.D. No. 857 in December 1975. The latter decree broadened the scope and functions of the PPA to facilitate the implementation of an integrated program for the planning, development, financing, operation and maintenance of ports or port districts for the entire country. In 1978, the charter was further amended by Executive Order No. 513 the salient features of which were the granting of police authority to the PPA, the creation of a National Ports Advisory Council (NPAC) to strengthen cooperation between the government and the private sector, and the empowering of the Authority to exact reasonable administrative fines for specific violations of its rules and regulations.

The mandate of PPA is to establish, develop, regulate, manage and operate a rationalized national port system in support of trade and national development.

Figure 2.4.2-4 shows the organizational structure of PPA.

5) CPA Organization

The Cebu Port Authority (CPA) was created through the enactment of Republic Act No. 7621 signed on June 26, 1992 to specifically administer all ports located in Cebu Province, effectively separating these ports from the PPA system. CPA began operations and officially took over all Cebu ports on January 1, 1996.

CPA's mission is to operate and maintain ports under its system and implement an integrated program for planning, development and financing of ports within its territorial jurisdiction.

Figure 2.4.2-5 presents the organizational structure of CPA.

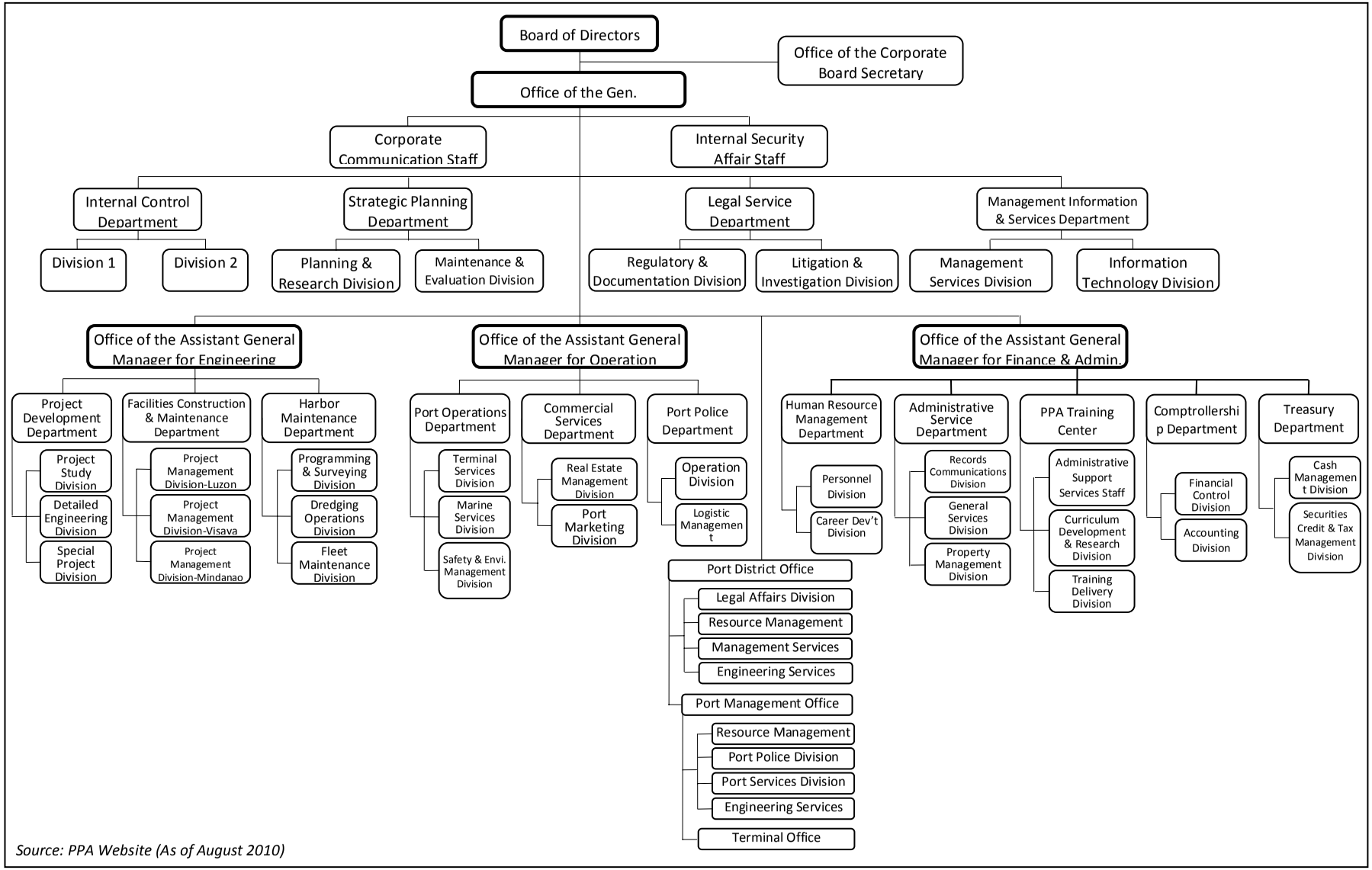
6) CAAP Organization

The Civil Aviation Authority of the Philippines is created through Republic Act No. 9497 which provide safe, reliable and efficient air transport system and regulatory services as well as promote the economic viability, develop and regulate the technical, operational, safety and security function of civil aviation. To ensure full integration of civil aviation with the national transportation system, taking into account the requirements of national interest and environmental concerns in accordance with ICAO Standards and Recommended Practices.

CAAP functions are:

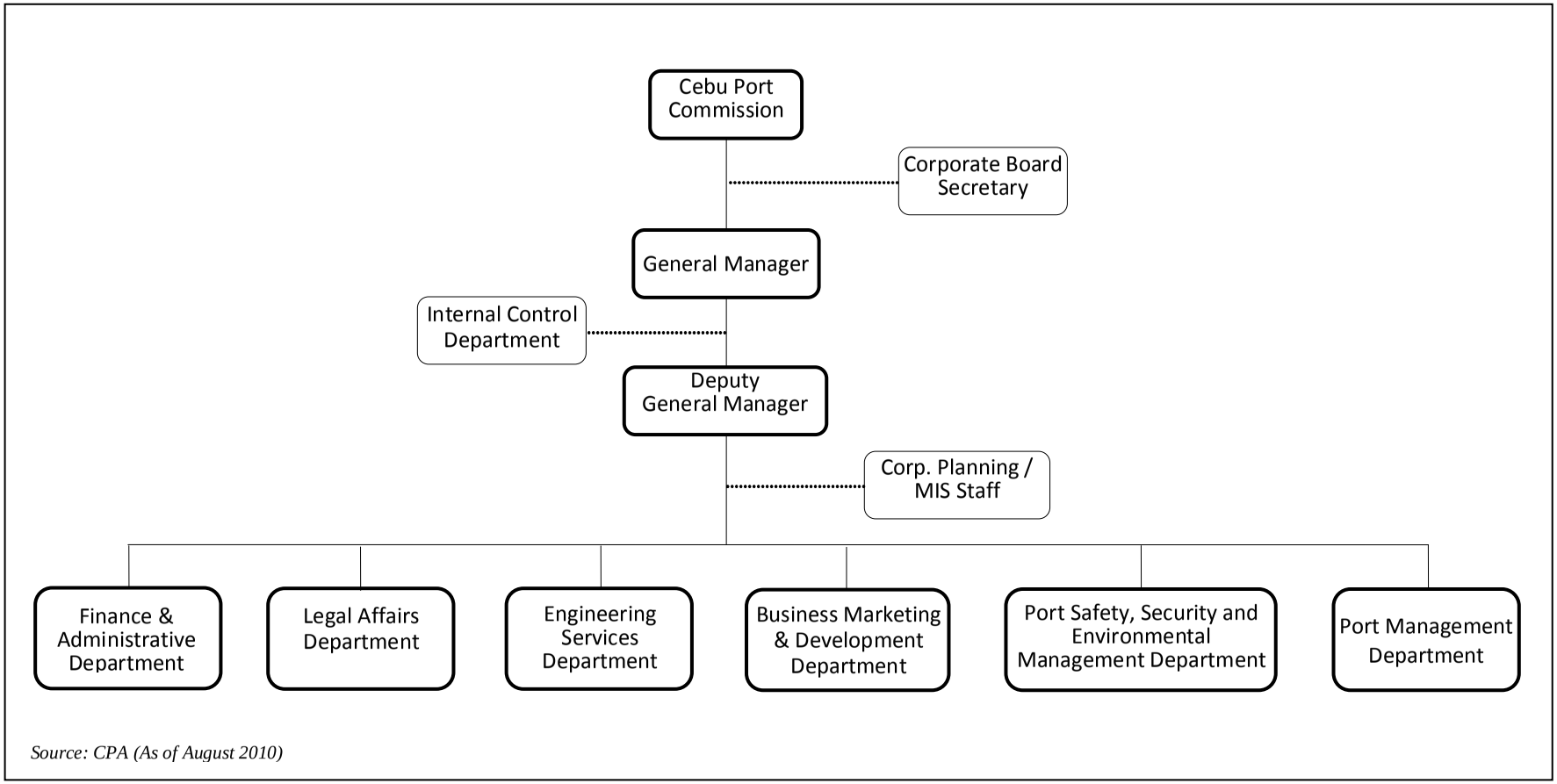
- Establish and prescribe rules and regulations for the inspection and registration of all aircraft owned and operated in the Philippines and all air facilities;
- Establish and prescribe the corresponding rules and regulations for the enforcement of laws governing air transportation;
- Determine, fix and/or prescribe charges and/or rates pertinent to the operation of public air utility facilities and services;
- Administer and operate the Civil Aviation Training Center (CATC);
- Operate and maintain national airports, air navigation and other similar facilities in compliance to ICAO;
- Perform such other powers and functions as may be prescribed by law.

Figure 2.4.2-6 illustrates the organizational structure of the agency:



Source: PPA Website (As of August 2010)

FIGURE 2.4.2-4: ORGANIZATIONAL STRUCTURE OF PPA



Source: CPA (As of August 2010)

FIGURE 2.4.2-5: ORGANIZATIONAL STRUCTURE OF CPA

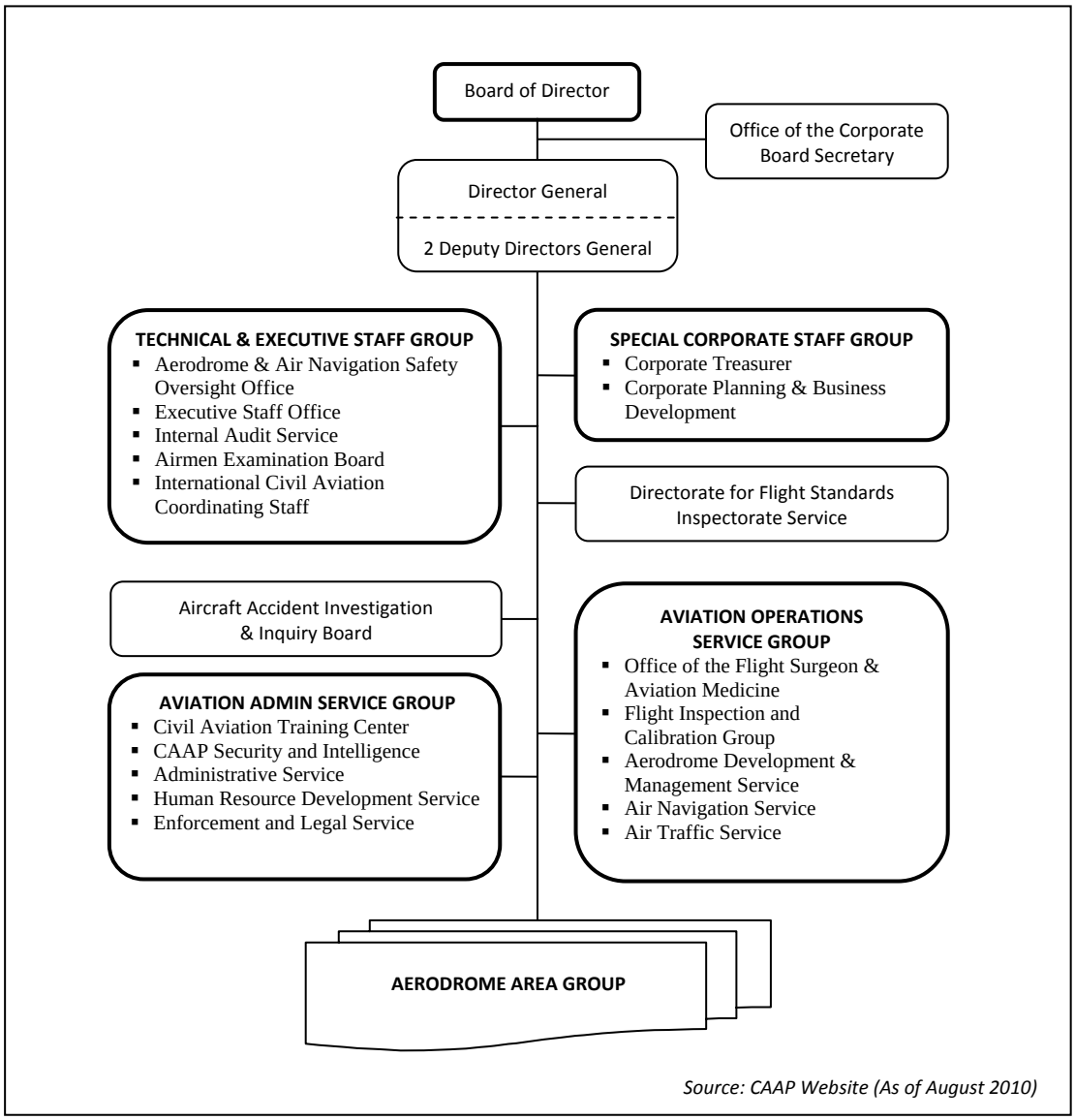


FIGURE 2.4.2-6: ORGANIZATIONAL STRUCTURE OF CAAP

7) MIAA Organization

Manila International Airport Authority (MIAA) is the agency vested with the power to administer and operate the Ninoy Aquino International Airport (NAIA) through Executive Order No. 778. It has the power to formulate and adopt for application in the airport internationally acceptable standards of airport accommodation service; upgrade and provide safe, efficient and reliable airport facilities for international and domestic air travel; and help encourage and promote international and domestic air traffic in the country as a means of making the Philippines as a center of international and domestic air travel.

Figure 2.4.2-7 illustrates the organizational structure of the agency:

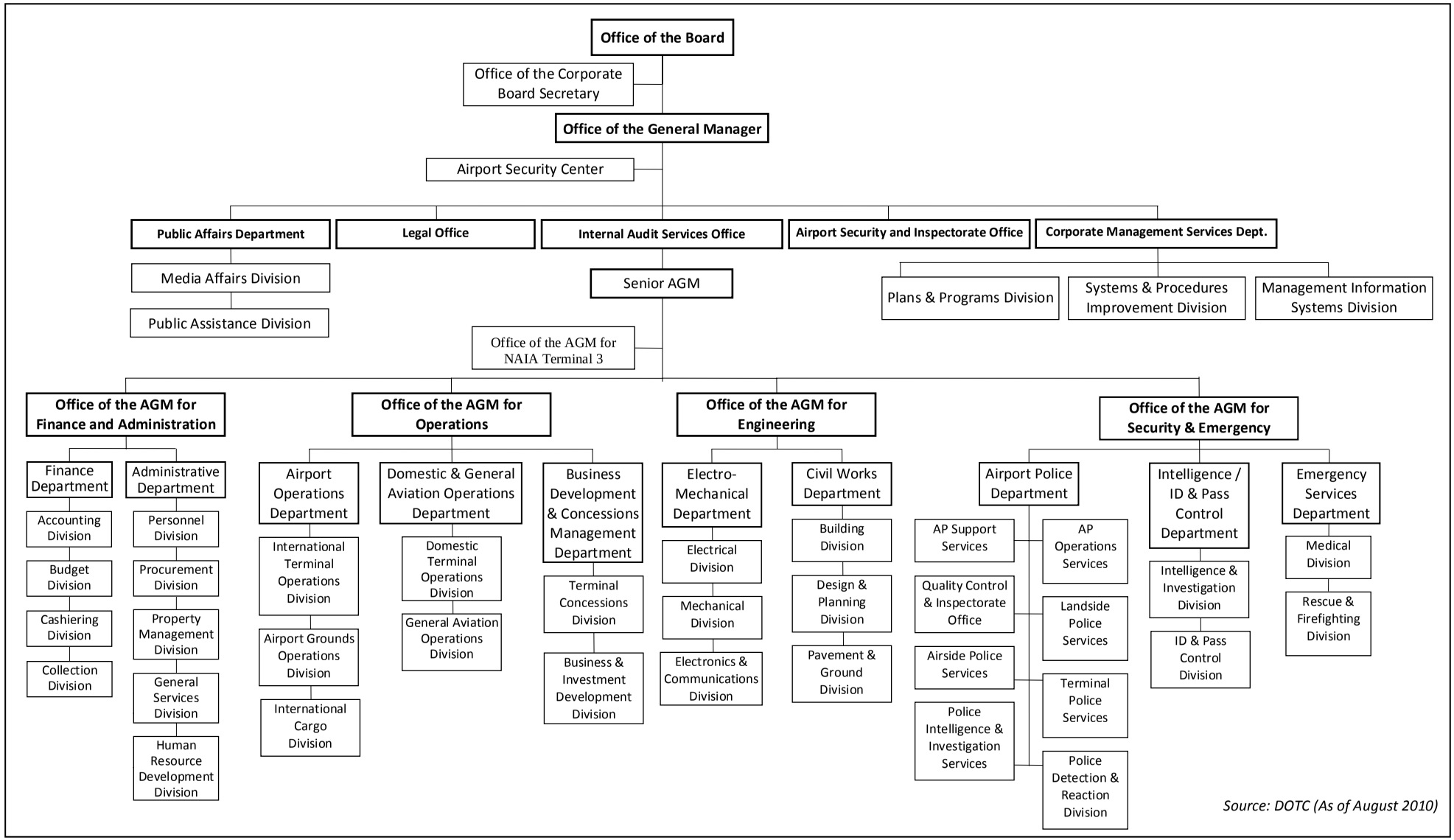


FIGURE 2.4.2-7: MIAA ORGANIZATIONAL STRUCTURE

8) MCIAA Organization

Mactan-Cebu International Airport Authority is a creation of Republic Act No.6958 otherwise known as its corporate charter. The MCIAA is a government-owned and controlled corporation and is an attached agency of the Department of Transportation and Communication. RA 6958 was approved on July 31, 1990 but the Authority started to operate on December 18, 1990.

The Authority shall principally undertake the economical, efficient and effective control, management and supervision of the Mactan-Cebu International Airport in the Province of Cebu, and other airports established in the future. Its objectives are:

1. To encourage, promote and develop international and domestic air traffic in the Central Visayas and Mindanao regions as means of making the regions centers of international trade and tourism, and accelerating the development of the means of transportation and communications in the country; and

2. To upgrade the services and facilities of the airports and to formulate internationally acceptable standards of airport accommodation and service.

Organizational set-up as of December 2009, the Authority has a manpower complement of 635, broken down as follows:

	Plantilla	Actual
Office of the Corporate Board Secretary	3	2
Office of the General Manager	37	24
Corporate Mgt. Services & Bus. Dev't. Dept.	26	16
Finance	72	45
Administrative	104	76
Airport Operations	64	41
Engineering	160	97
Emergency and Security Services	342	269
Casual Employees		65
Total	808	635

Source: DOTC

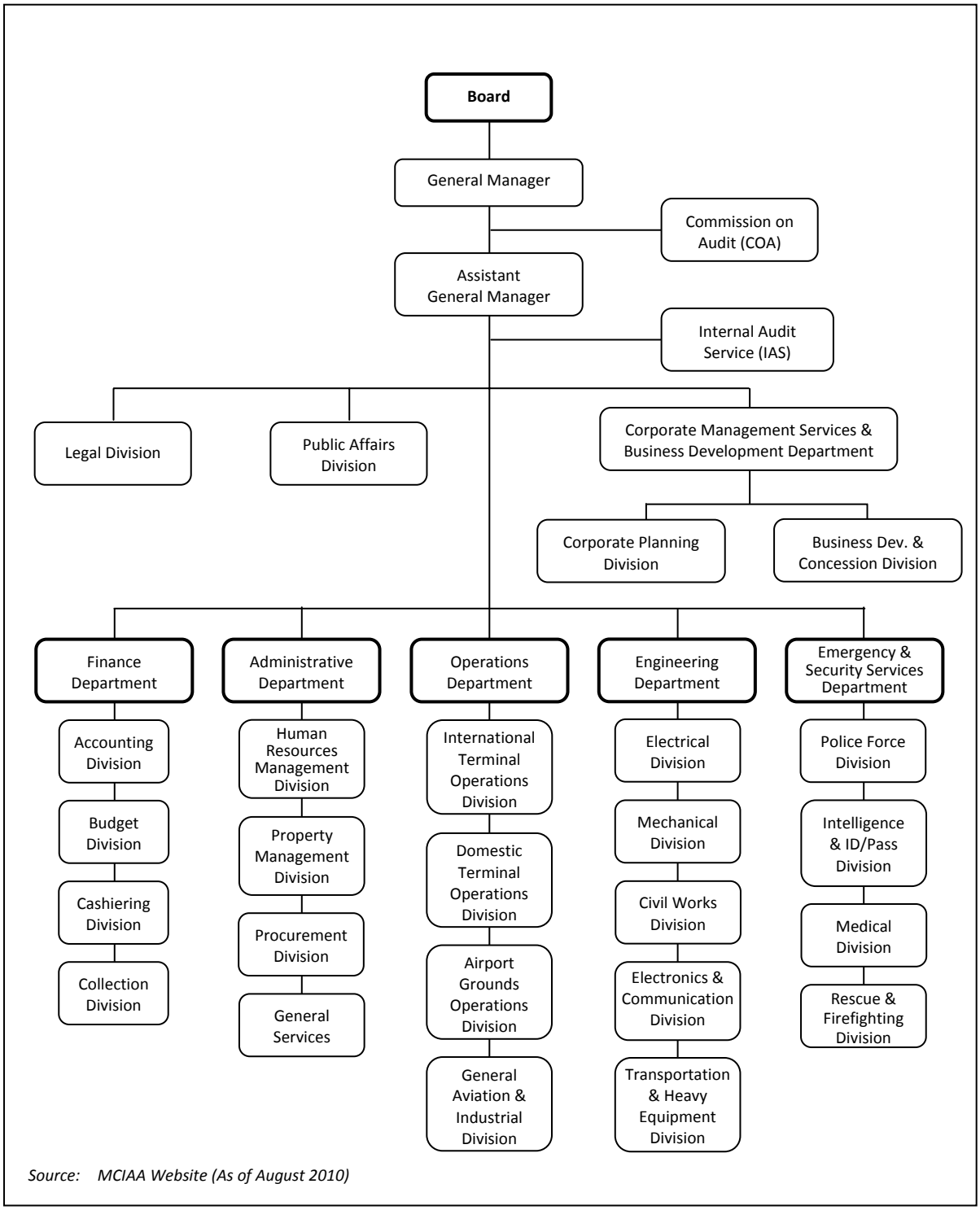
Figure 2.4.2-8 illustrates the organizational structure of MCIAA.

9) Toll Regulatory Board (TRB)

Executive Order No. 686, dated December 19, 2007 re-define the mandate of TRB and gave the Board the following powers:

- The power to issue, modify and proclaim from time to time the rates of toll that will be charged the direct users of toll facilities and upon notice and hearing, to approve or disapprove petitions for the increases; and
- The power to grant authority to operate a toll facility and to issue the necessary "Toll Operation Certificate.

The same Order also transferred the Board as an attached agency from the DPWH to the DOTC.



Source: MCIAA Website (As of August 2010)

FIGURE 2.4.2-8: ORGANIZATIONAL STRUCTURE OF MCIAA

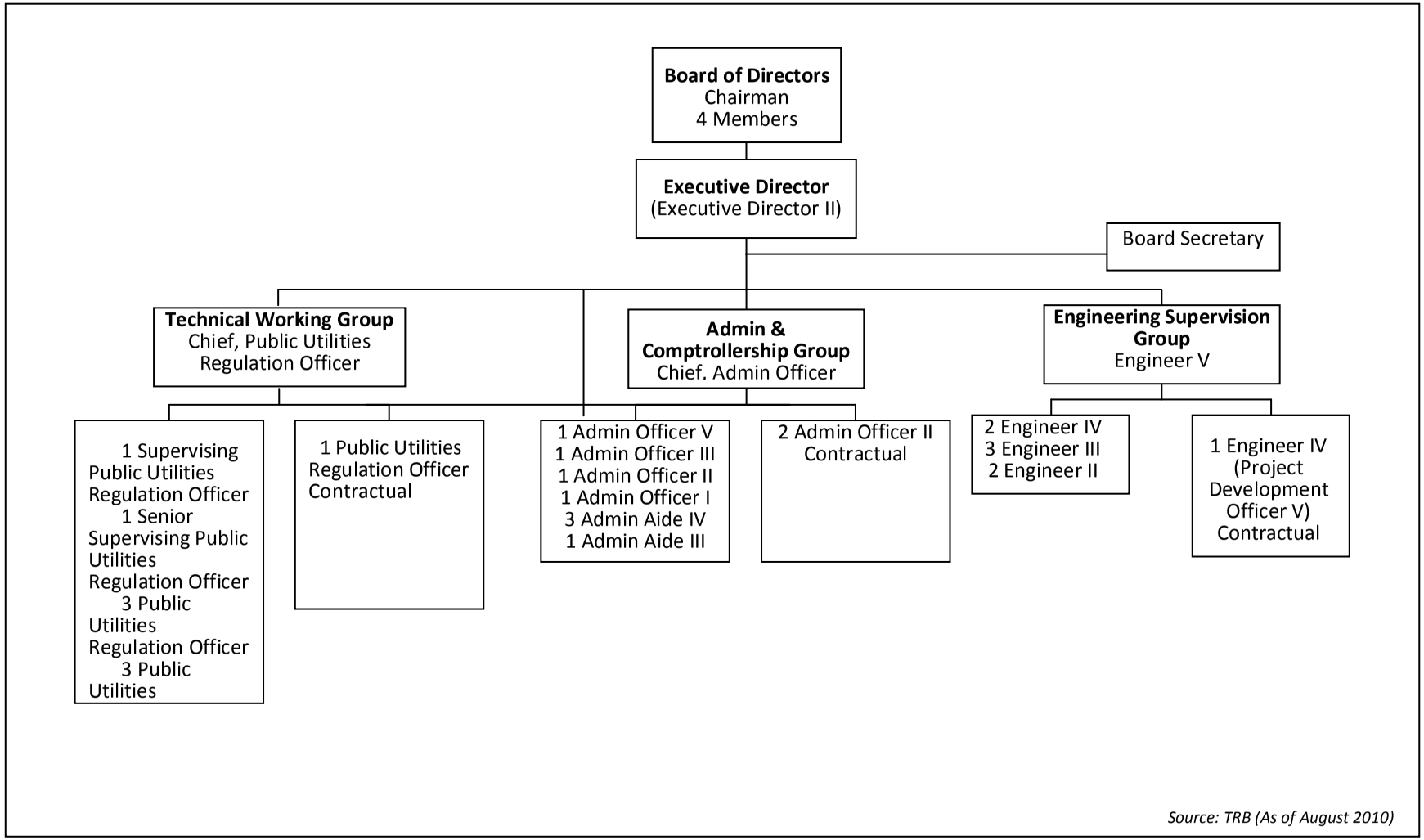


FIGURE 2.4.2-9: EXISTING ORGANIZATIONAL STRUCTURE O F THE TOLL REGULATORY BOARD (TRB)

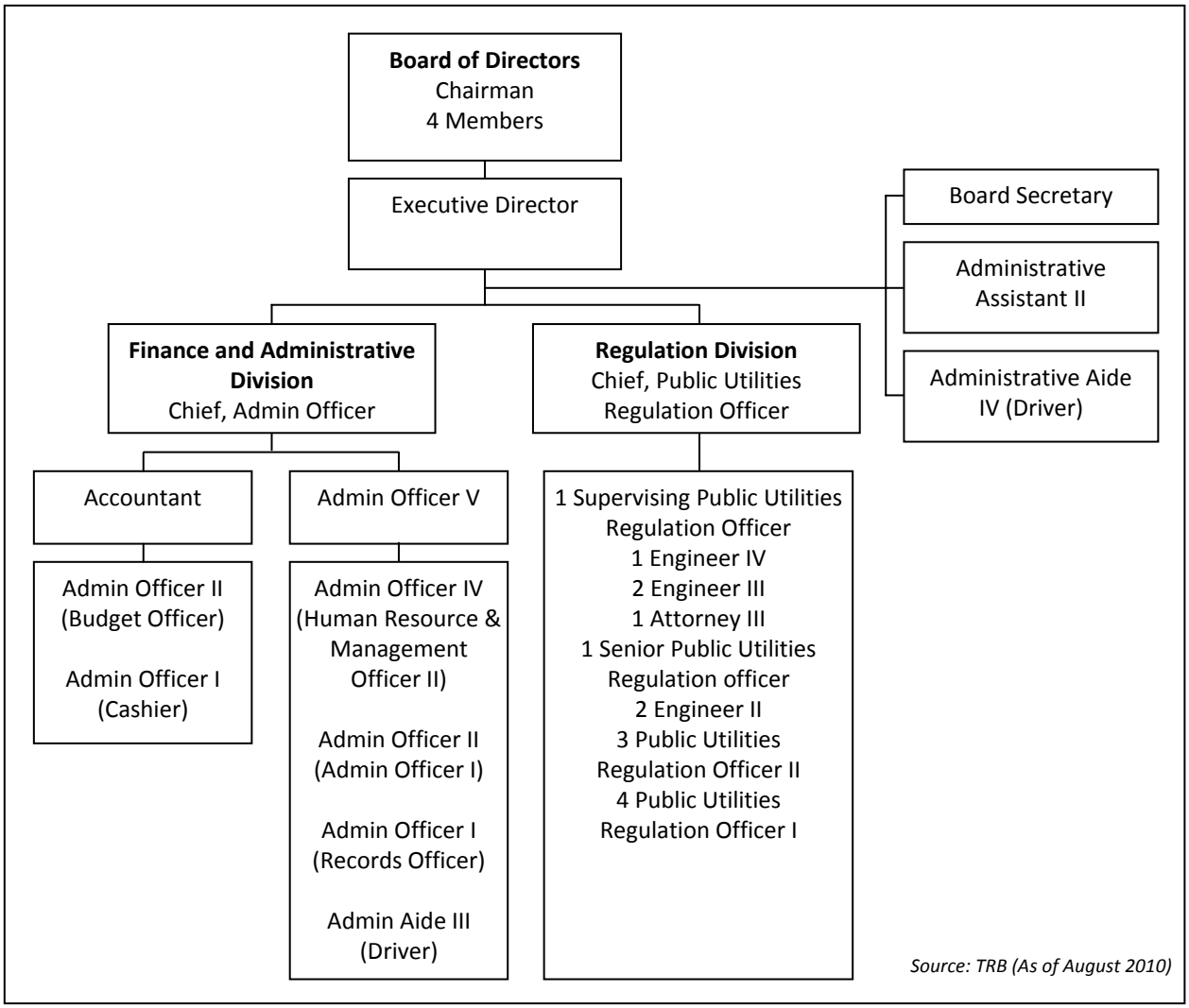


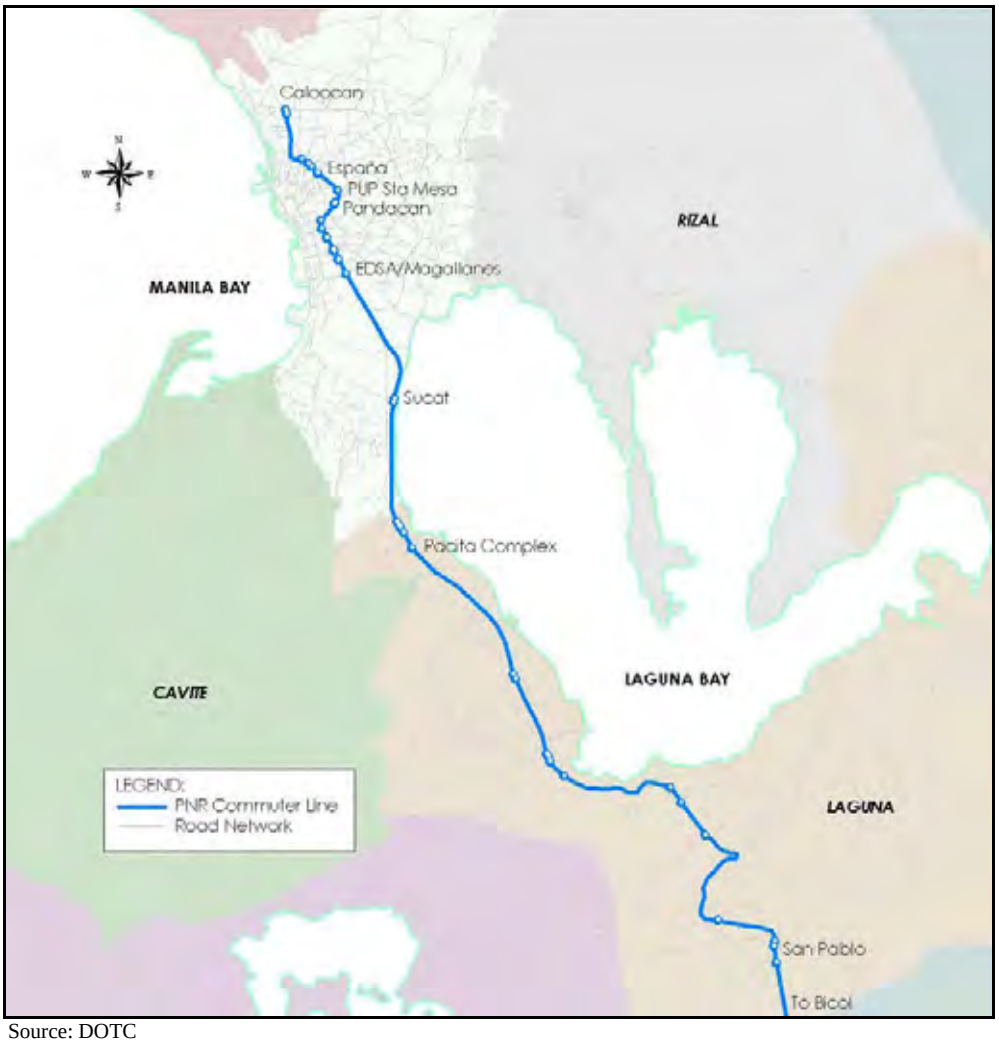
FIGURE 2.4.2-10: ORGANIZATIONAL STRUCTURE BASED ON APPROVED RATIONALIZATION PLAN

2.4.3 Rail Transport Sub-Sector

1) Rail Transport Network

Inter-Regional Railway Network

Inter-regional railway services are provided by the Philippine National Railways (PNR), a government-owned and controlled corporation. It operates a railway line measuring 491 km running along the Main Line South from Manila to Legaspi, Albay. It previously operated a Main North Line running from Manila to San Fernando, La Union, but this line has been closed since 1981. PNR currently offers three types of services: long-distance passenger service, commuter service, and freight and express cargo services. The Metro Manila Commuter Service operates between Caloocan and Calamba for a revenue line of about 56 km. The Commuter Line runs north – south through the CBD (central business district) of Metro Manila as shown in **Figure 2.4.3-1**. There was a high potential demand for the line, but the low service frequency did not enable the line to meet the peak demand. Furthermore, as trains did not run on the schedule, the number of passengers declined from its peak of 22,000 persons/day in 1977 to about 15,000 persons/day in 1990. The decline in passenger traffic continued with only 7,500 persons/day in 2006 (**Table 2.4.3-1**).



Source: DOTC

FIGURE 2.4.3-1: PNR COMMUTER EXPRESS SERVICE

The on-going NorthRail Project, is envisioned to be the first of a four-phased development aimed to revitalize the long-abandoned PNR Main Line North (**Figure 2.4.3-2**) and provide rail transport services between Metro Manila and Central and Northern Luzon, particularly between former military bases which have been converted and developed into industrial, commercial and tourism estates (Fort Bonifacio, Clark Air Base, Subic Naval Base and Poro Point). The railway system is expected to enhance the development and growth potential of these areas. Phase 1 of the NorthRail Project (**Figure 2.4.3-3**) will cover an 80-kilometer rail line from Caloocan City in Manila to the Diosdado Macapagal International Airport (DMIA) at the Clark Special Economic Zone (CSEZ) in Pampanga. The NorthRail Project will be implemented in four stages, Phase 1 of which will be divided into two sections: (1) Section 1 covers the line from Caloocan to Malolos; and Section 2 covers the line between Malolos and CSEZ.

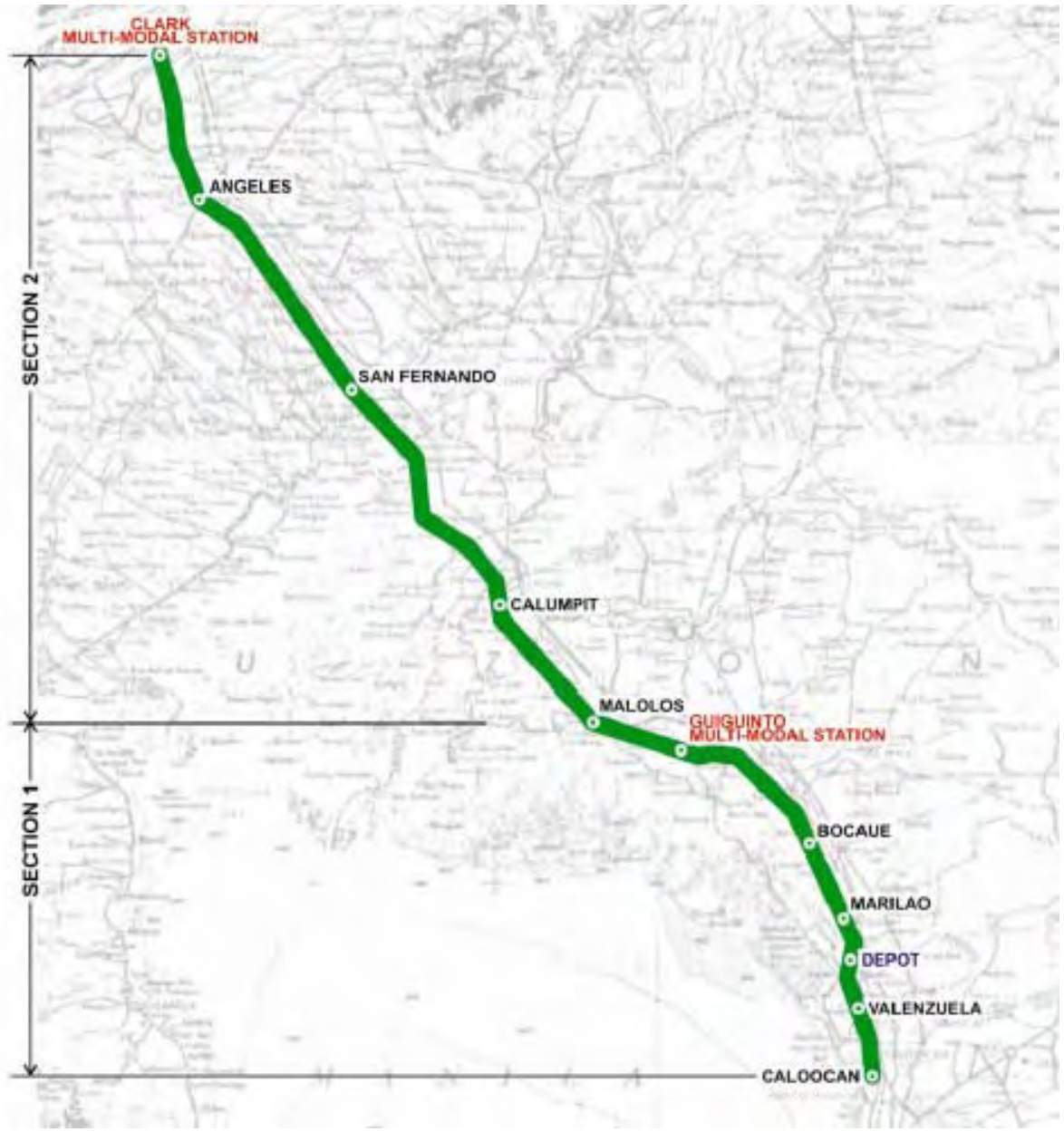
TABLE 2.4.3-1: PNR RIDERSHIP PERFORMANCE, 2000-2006

Year	Long Distance Passenger Carried	Commuter Passenger Carried	Long Distance Freight Tonnage	Express Freight Tonnage
2000	374,342	3,641,006	NA	1,941
2001	318,898	4,787,481	NA	1,688
2002	284,553	4,092,532	NA	1,797
2003	240,472	3,859,978	NA	1,831
2004	241,717	3,662,012	NA	2,120
2005	64,064	3,245,492	NA	793
2006	137,414	2,496,374	NA	NA

Source: Philippine National Railways

Source: North Railway Corporation

FIGURE 2.4.3-2: NORTHRAIL PROJECT PHASES



Source: North Railway Corporation

FIGURE 2.4.3-3: NORTHRAIL PROJECT PHASE 1 SECTION

Urban Railway Network

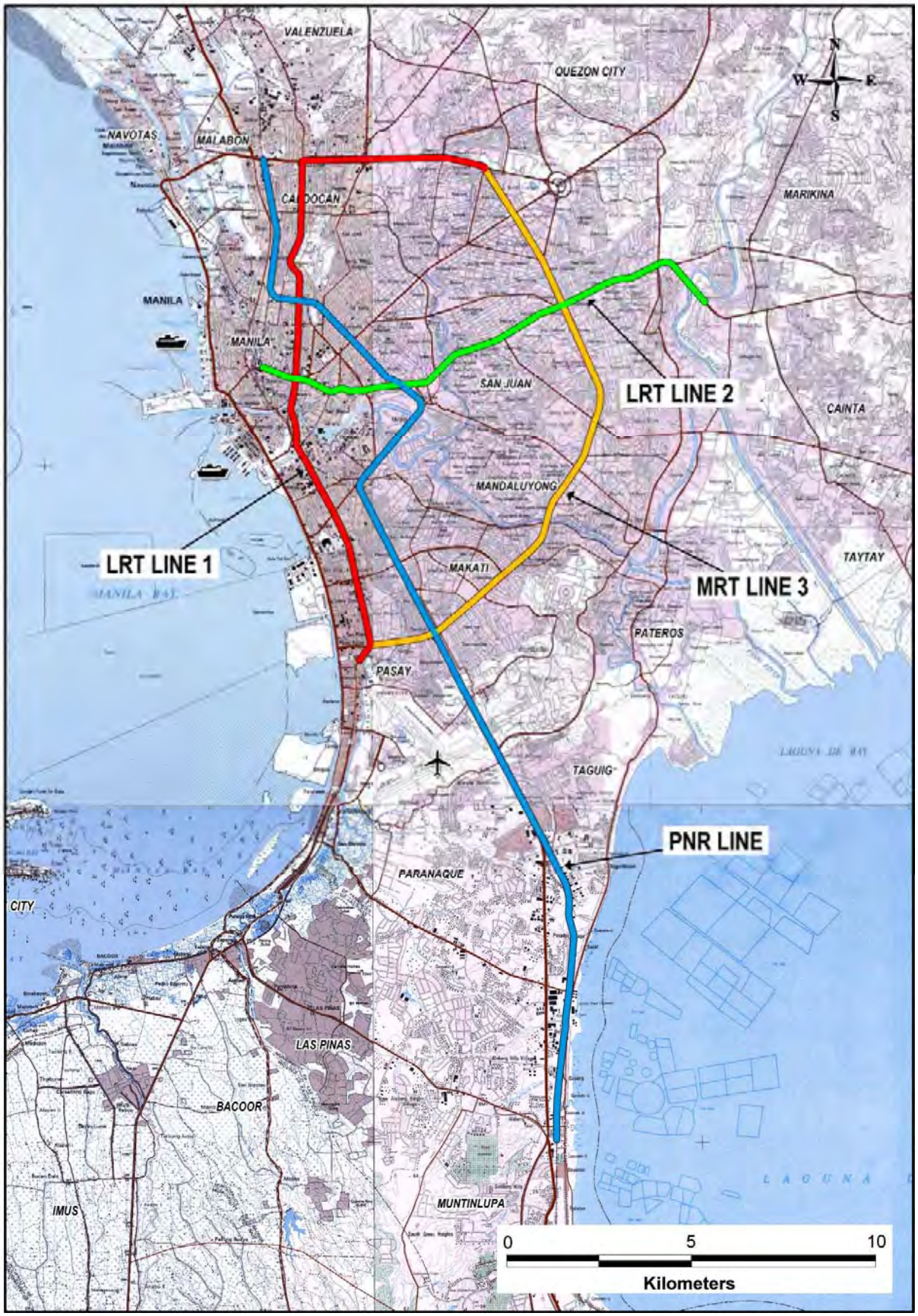
Urban railway services are operated currently in Metro Manila only. It consists of a network of rail-based mass transit systems that augment the road network system in meeting the traffic demand in the metropolis. Three railway transit systems are now operational and four more are in the planning stage or already in the pipeline. The three railway transit systems in operation (**Figure 2.4.3-4**) are the following:

- ***LRT Line 1***, from Monumento in Caloocan City to Baclaran in Pasay City;
- ***LRT Line 2***, from Santolan in Marikina to CM Recto in the City of Manila; and
- ***MRT Line 3***, from North Avenue in Quezon City to EDSA in Pasay City.

LRT Line 1 is operating along a 15 km elevated railway system servicing the Taft Avenue - Rizal Avenue corridor and recently connected to MRT Line 3 in North Avenue, Quezon City. It currently handles about 290,000 passengers per day, with peak traffic reaching 554,626 passengers daily riders. Due to the increased ridership of LRT 1, a train acquisition project was conceptualized with the primary objective of expanding the LRT Line 1 capacity by 50% from a nominal carrying capacity of 18,000 passengers per peak-hour per direction to 27,000 or 235,000 additional commuters to be carried by the system daily. This objective was achieved in 2000 through the procurement of seven new, airconditioned 4-car trains and the transformation of the existing 2-car trains to 3-car trains with corresponding modifications to the existing vehicles, systems, facilities, and structures to support the operation of the expanded system. Recently, the Light Rail Transit Authority (LRTA) has completed Phase II of the LRT 1 Capacity Expansion Project, which effectively increased the capacity of LRT Line 1 to 40,000 passengers per hour per direction from the current capacity (Phase I) of 27,000 hourly passengers.

LRT Line 2, is a 13.8-km mass transit line traversing five cities in Metro Manila namely Pasig, Marikina, Quezon City, San Juan and Manila, along the major thoroughfares of Marcos Highway, Aurora Boulevard, Ramon Magsaysay Boulevard, Legarda and Recto Avenue. It started full commercial operation in May 2001. Being the latest of its kind in the world today, it is a fully automatic (i.e., driver-less) system which is at par in terms of facilities and technology with those in other parts of the world. It is equipped with a CCTV system that enables the railway operator to monitor activities of passengers and employees at the stations and inside the trains. Moreover, it is commuter friendly and has facilities especially designed for the elderly and the differently-abled.

MRT Line 3. Under a BOT contract to Metro Rail Transit Corporation (MRTC), the EDSA MRT or MRT Line 3, a 16.9-kilometer modern rail system stretching along EDSA from North Ave. in Quezon City to Taft Ave., Pasay City was constructed from 1998 to 2001. This system is designed to carry traffic in excess of 23,000 passengers per hour per direction, initially, and is expandable to accommodate 48,000 passengers per hour, per direction. In 2009, the average weekday ridership reached 447,000 passengers per day, with peak day traffic of more than half a million passengers. The rail system has a total fleet of 73 Czech-made modern air-conditioned rail cars, of which up to 60 cars in three-car trains are operated daily during the peak hours. Each train can seat 216 passengers and carry under crush capacity 1,182 riders.



Source: DOTC

FIGURE 2.4.3-4: METRO MANILA URBAN RAILWAY SYSTEM

In contrast, ridership on the three Metro lines continues to expand at 8.8% yearly average – with fares stagnant at its 2003 level while those of competing buses have increased several times. As shown on tables, ridership has reached almost a million passengers a day on all three lines, which is about 5% of total daily trips in Metro Manila.

TABLE 2.4.3-2 URBAN RAIL RIDERSHIP IN METRO MANILA: LRT LINES

In million passengers

LRT Line	2002	2003	2004	2005	2006	2007	2008
LRT Line 1	107.0	107.24	98.86	104.41	111.08	119.12	138.04
LRT Line 2	NIS	2.35	20.69	41.89	47.58	52.93	58.59
MRT Line 3	102.4	112.65	122.61	127.79	122.97	142.69	149.58
Total	209.4	222.24	242.16	274.09	281.59	314.59	346.21

Source: DOTC

The average load factors (see **Table 2.4.3-3**) indicate overcrowding on Lines 3 and 1, with sufficient capacity on Line 2. In an urban setting, where peak loading is the usual pattern, an average daily load factor of above 60% is an indicator of congestion.

TABLE 2.4.3-3 AVERAGE LOAD FACTORS (%)

LRT Line	2006	2007	2008
LRT Line 1	61.5	66.5	62.4
LRT Line 2	30.9	34.1	38.8
MRT Line 3	76.8	87.7	91.8

Source: DOTC

Despite the higher ridership on Line 3, its fare box ratio[1] (see **Table 2.4.3-4**) is lower than Line 1 due to the former's high operating expenses under its Build-Lease-Transfer scheme.

TABLE 2.4.3-4 FARE BOX RATIO OF METRO LINES

LRT Line	2006	2007	2008
LRT Line 1	1.52	1.49	1.56
LRT Line 2	1.10	1.02	1.03
MRT Line 3	0.96	1.07	1.08

Source: DOTC

The average fares as well as the implicit subsidy per passenger are shown on Table **2.4.3-5**.

TABLE 2.4.3-5 AVERAGE FARE AND SUBSIDY PER PASSENGER

LRT Line	2006		2007		2008	
	Fare	Subsidy	Fare	Subsidy	Fare	Subsidy
LRT Line 1	14.36	2.67	14.34	-4.06	14.22	n.a.
LRT Line 2	13.51		14.15		13.93	
MRT Line 3	13.42	16.92	12.05	18.01	12.34	15.56

Source: DOTC

[1] The fare-box ratio is defined as the gross operating revenues over operating costs. A ratio of below 1 indicates that the services do not recover its operating costs. Full cost recovery (including recovery of capital cost, would require a ratio of around 2.

2) Rail Transport Problems

According to DOTC's Planning Division, Rail Transport Problems were identified as follows:

Planning/Design Stag

- Viability of railway project
- Alignment: at-grade, elevated or Underground?
- Appropriate technology
- Very ideal/high traffic study
- Coordination with DPWH, LGUs
- Government to provide right-of-way

Construction

- R-O-W acquisition
- Informal settlers relocation
- Utilities relocation

Operation/Contractual Implementation

- Realty taxes imposed by local gov't.
- Social acceptability of fare structure

Operation/Contractual Implementation

- Low ridership/patronage
- Gov't. guarantee on equity IRR/capacity payments
- Gov't. guarantee on ridership
- Capacity expansion issue in the case of PPP/BOT

3) Rail Transport Development Policies and Strategies

According to the recent study of Aus-AID the National Transport Plan submitted to DOTC, NEDA and DPWH the proposed policies and strategies to be done for the rail sector are illustrated below:

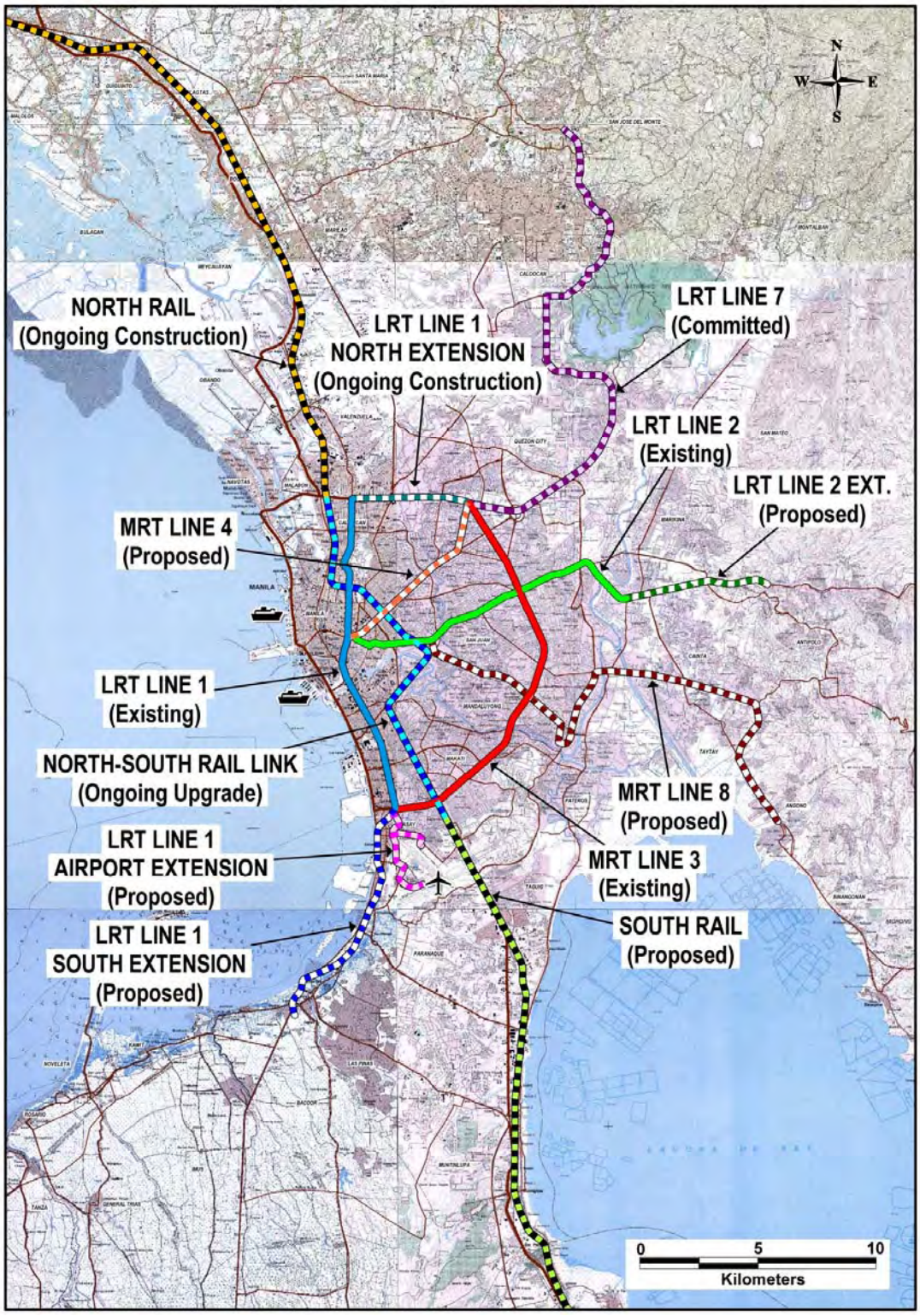
1) Rail transport shall be operated in accordance with acceptable standards of safety, reliability and efficiency in keeping with international standards and practices.

2) As in road transport, a regulatory body shall exercise regulatory control on the economic and technical aspects of rail transport in a manner sets forth in the preceding section.

3) Government owned and controlled rail transport operators shall set fares at rates that will generate revenues sufficient to cover all costs, net of eligible subsidies.

4) Proposed Rail Projects

Recently completed, ongoing and planned projects for railway are shown in **Figure 2.4.3-5**. Other project details are given in **Annex 2-1**.



Source: DOTC

FIGURE 2.4.3-5 RAIL TRANSPORT NETWORK IN METRO MANILA

2.4.4 Sea Transport Sub-Sector

Philippine Port System

The country has 2,456 ports broken down into: 1,612 public ports, 423 private ports and 421 fishing ports. Many of these ports are extremely small and catering mainly to local fishing and passenger movements. Private ports handle more than 60% in tons of all cargo traffic, which consists largely of minerals, petroleum, cement and bulk agricultural produce.

The public ports are managed and operated by government port authorities, like the Philippine Ports Authority (PPA), Cebu Port Authority (CPA), and the Regional Port Management Authority, local government units (LGUs) and other port-operating government authorities, such as the Subic Bay Metropolitan Authority (SBMA), Cagayan Economic Zone Authority (CEZA), Poro Point Management Corporation (PPMC), and PHIVIDEC Industrial Authority (PIA). Private ports can also be categorized into commercial ports which handle third party cargoes, and non-commercial ports which handle only own-account cargoes. **Table 2.4.4-1** shows the distribution of the ports in the country. **Figure 2.4.4-1** presents the location of the major ports in the country.

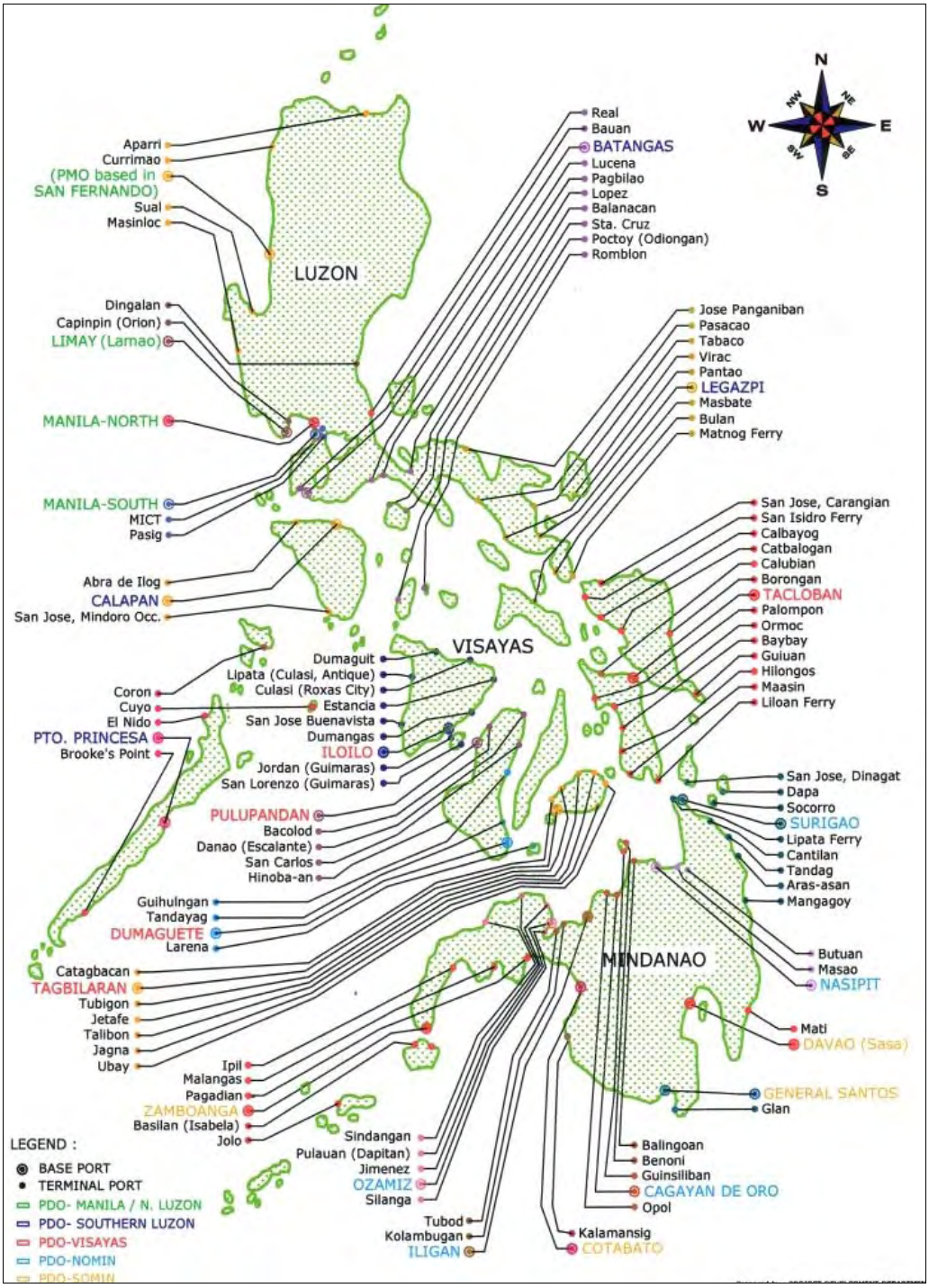
TABLE 2.4.4-1: PORTS IN THE PHILIPPINES

Region	Public Ports				Private Ports	Fishing Ports	Total Ports
	Port Authorities	LGUs	Other Govt Authorities	Total, Public Ports			
NCR	4			4	49	3	56
CAR	This is a land-locked region.						
I	2	45	1	48	11	17	76
II	1	38	1	40	4	22	66
III	3	34	1	38	17	16	71
IVA	7	130		137	33		170
IVB	12	134		146	19	72	237
V	9	128		137	17	58	212
VI	14	114		128	41	49	218
VII	53	80		133	88	38	259
VIII	14	214		228	21	35	284
IX	6	64		70	16	21	107
X	11	59	1	71	33	16	120
XI	2	35		37	21	17	75
XII	3	19		22	13	8	43
ARMM	86	74		160	11	18	189
XIII	12	201		213	29	31	273
Total	239	1,369	4	1,612	423	421	2,456

Source: JICA Study on Domestic Shipping Development Plan in the Philippines, 2005

Major ports are typically located in key cities across the country. The rest are very small and serve mainly as feeder ports. Investment in feeder ports used to be the responsibility of the DOTC, with some ports owned and/or operated by municipalities. However, all these ports remain under the jurisdiction of the PPA pursuant to its all-encompassing charter, except those explicitly devolved to other agencies by law. On the other hand, some private ports, mostly specialized facilities for private business use, are operational and may have authority from PPA to accept other cargo traffic. These include Banago Port in Bacolod, Bauan International Port and PNOC in Batangas, and Tefasco Port, in Davao, which handle cargo for the public.

1) Port Locations



Source: JICA Study on the Master Plan for the Strategic Development of the National Port System, 2004

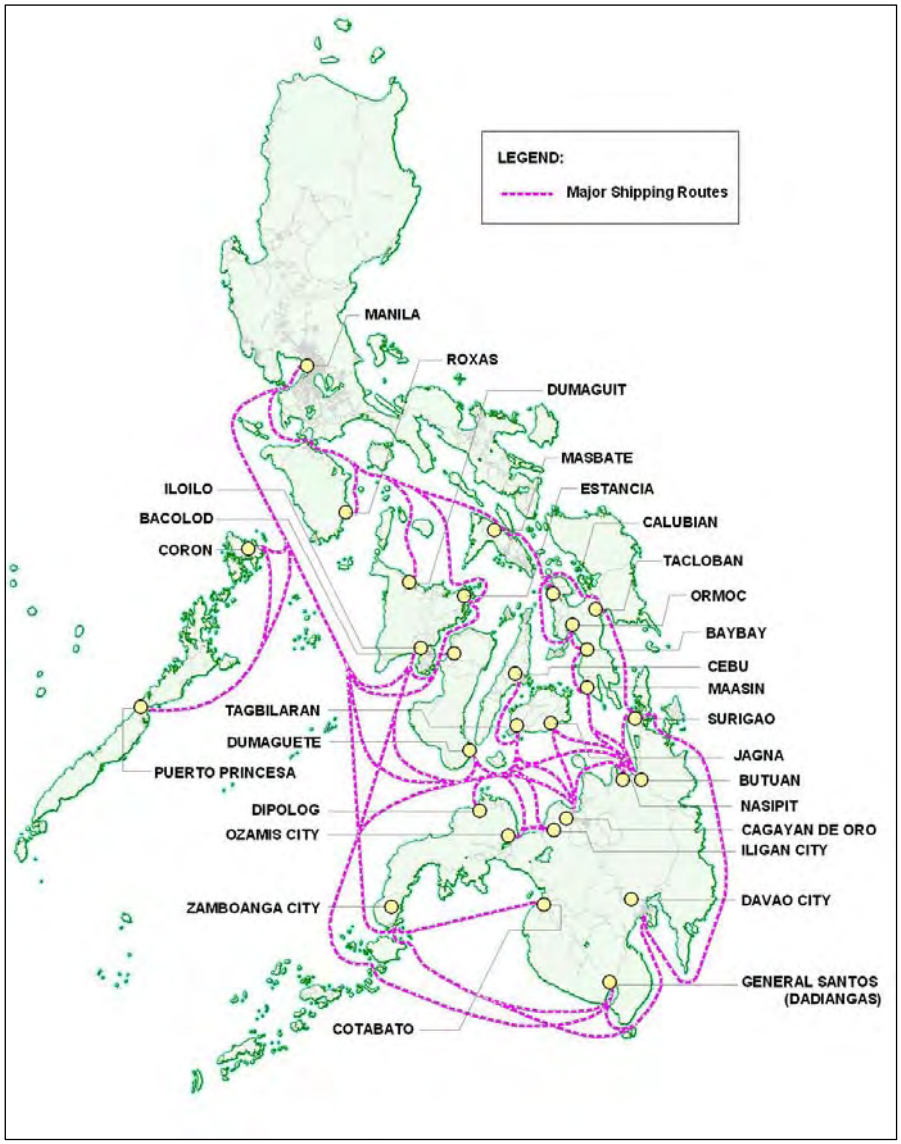
FIGURE 2.4.4-1: MAJOR PORTS LOCATION

Domestic Shipping Services and Routes

Most passenger transport shipping services are mainly combined with cargo transport. In terms of capacity, Roll-on Roll-off (RORO)/passenger vessels and conventional cargo-passenger vessels are the most dominant fleet operated among the cargo passenger shipping services. These types of vessels provide liner service for mainly medium- to long-distance trunk routes connecting

major cities in the country (**Figure 2.4.4-2**). Wooden-hull banca vessels have the largest number and coverage. This type mainly serves short-distance tertiary routes connecting major islands and remote small islands. Moreover, there are pure passenger shipping services such as fast crafts and tourism boats.

Containerized cargoes are being served by container vessels along liner shipping services. These container vessels mainly serve medium- to long-distance primary routes connecting major cities in the country. General cargo vessels and tankers are serving mainly for primary and secondary routes, while bulk carriers (mostly barges) are serving for secondary and tertiary routes.



Source: JICA Feasibility Study on the Development of Road RORO Terminal System for Mobility Enhancement, 2007

FIGURE 2.4.4-2: MAJOR SHIPPING ROUTES

Table 2.4.4-2 shows the existing domestic shipping services.

TABLE 2.4.4-2: EXISTING DOMESTIC SHIPPING SERVICES, 2003

Service Type	Vessels							Service Route	
	Type	No.	Total GT (000)	Ave. GT	Ave. Pax	Ave Age	Hull	Type	Distance
Passenger –Cargo	Ropax/Roro	149	484	3,250	1,019	29	Steel	Primary	Mid-long
	Conventional Cargo-Passenger	116	35	302	325	26	Steel	Secondary	Short/ Mid
	Wooden-Hull Banca	2,503	53	21	37	10	Wood	Tertiary	Short
	Passenger and Fast crafts (incl. tourist boats	150	32	216	216	16	Steel Fiber glass	Secondary/ Tertiary	Short/ Mid
Cargo	Container	28	109	3,893	-	28	Steel	Primary	Mid/ Long
	General Cargo	854	531	622	-	22	Steel Fiber glass	Secondary	Mid-Long
	Dry Bulk (barge)	178	97	543	-	22	Steel	Secondary/ Tertiary	Short/ Mid
	Tanker	205	184	900	-	21	Steel	Primary /Secondary	Mid-Long

Source: JICA Study on Domestic Shipping Development Plan in the Philippines, 2005

The number of domestic shipping companies registered in 2007 was 484 as against 486 in 2006. The total number of vessels acquired for the year was registered at 68, where 45 vessels or 66% was for bareboat charter/importation and the remaining 23 or 34% was for local construction. There was a decrease of 18% (83) for the same transaction in 2006. The total number of commercial vessels registered in the same year was 2,071, representing an 11% decrease from 2006 level of 2,324 vessels.

Pursuant to MARINA Memorandum Circular No. 181 dated 23 July 2003, overseas shipping companies which intend to acquire and operate ships for international voyages must be accredited with MARINA. For 2007, a total of 27 companies were accredited or 42% increase from those accredited in 2006. Meanwhile, to cover other shipping companies which intend to engage in ship management, shipping agency, ship chandling and multi-modal transport operations, MARINA issued Memorandum Circular No. 186 on 23 July 2003. There were 69 companies registered under this category in 2007 as against 39 companies in 2006 or a 77% increase.

The Philippines has now relatively newer vessels with average age of about 20.2 years as of 2008. The liberalization in shipping services started in 1994. Since that time, the government provided incentives and financing packages which paved the way for the rush of vessel acquisition by shipping companies, albeit second hand vessels. Due to the high capital costs of new vessels, inter-island ship owners opted to procure second hand vessels, mainly from Japan and the rest from China and South Korea.

Port Traffic

The total number of sea passengers served by Philippine ports slightly decreased by about 1.4% to 43,870,914 in 2008 as compared to the same period in 2007. Domestic cargoes and locally produced and traded goods, consistently accounted for nearly 50% of all cargo that go through the ports, reaching about 71.8 million metric tons in 2008. From a few thousand foreign containers in 1971, containerized cargo traffic rapidly increased, reaching a little over 4 million TEUs (Twenty Equivalent Units) in 2008. **Table 2.4.4-3** indicates the PPA port statistics for the year 2008.

TABLE 2.4.4-3: PPA PORT STATISTICS, 2008

PARTICULARS	TOTAL	PORT DISTRICT OFFICE				
		MANILA/ N. LUZON	SOUTH'N LUZON	VISAYAS	NORTH'N MIND.	SOUTH'N MIND.
1.Shipcalls	310,701	22,762	84,449	114,902	51,481	37,107
Domestic	301,069	17,658	83,275	114,424	50,752	34,960
Foreign	9,632	5,104	1,174	478	729	2,147
2.Cargo Throughput (M.T)	144,594,797	65,750,706	26,987,902	19,751,019	17,480,793	14,624,377
Domestic	71,758,150	27,195,419	12,649,924	14,940,852	9,214,810	7,757,145
Inward	36,100,577	11,751,158	6,545,129	8,727,621	4,285,075	4,791,594
Outward	35,657,573	15,444,261	6,104,795	6,213,231	4,929,735	2,965,551
Foreign	72,836,647	38,555,287	14,337,978	4,810,167	8,265,983	6,867,232
Import	46,727,363	29,799,071	11,780,988	1,568,162	1,475,581	2,103,561
Export	26,109,284	8,756,216	2,556,990	3,242,005	6,790,402	4,763,671
3.Container Traffic (in TEU)	4,062,447	2,977,606	19,396	217,483	240,918	607,044
Domestic	1,538,832	781,023	19,259	217,406	208,627	312,517
Inward	764,629	375,714	9,516	111,154	103,752	164,493
Outward	774,203	405,309	9,743	106,252	104,875	148,024
Foreign	2,523,615	2,196,583	137	77	32,291	294,527
Import	1,253,051	1,104,588	71	77	14,835	133,480
Export	1,270,564	1,091,995	66	0	17,456	161,047
4.Passenger Traffic	43,870,914	2,316,941	12,615,033	15,400,608	8,492,994	5,045,338
Disembarked	21,516,761	1,219,792	5,765,025	7,725,442	4,287,786	2,518,716
Embarked	22,354,153	1,097,149	6,850,008	7,675,166	4,205,208	2,526,622

Source: Philippine Ports Authority

2) Sea Transport Problems

Based on the interview with Division Chief, DOTC Water Transport Division, Sea Transport Problems were identified as follows:

1. Wooden hulled vessels (15 years and above to be phase-out per MARINA circular)
2. Marine pollution
3. Dual function of PPA as operator and regulator
4. Disaster response
5. Safety in life and property
6. Strict implementation of sea transport regulation
7. Piracy
8. Compliance of International Ship and Port Facility Security (ISPS) Code
9. Political Intervention
10. Compliance of International Organization Agreement

3) Sea Transport Development Policies and Strategies

According to the recent report of Aus-AID funded project, the National Transport Plan through the DOTC, NEDA and DPWH the policies and strategies that needs legislative and executive actions are described as follows:

a) All vessels operated by ship operators shall at all times be in seaworthy condition, properly equipped with adequate life-saving, communication, safety and other equipment, operated and maintained in accordance with applicable international conventions and regulations as set by the regulatory body and manned by duly licensed and competent vessel crew. There shall be no compromise on matters of safety.

b) The regulatory authority shall issue certificates of public convenience to qualified domestic ship operators, taking into consideration the economic and beneficial effect which the proposed services shall have to the port province or region which it proposes to serve, and the financial capacity of the domestic ship operator to provide and sustain safe, reliable, adequate, efficient and economic service in accordance with the standards set by government regulations. Every domestic ship operator shall state in its application the route it proposes to serve, and the service it proposes to offer. Domestic ship operators who do not intend to operate in a fixed route shall nevertheless state in its application the service it proposes to offer.

c) In order to encourage investments in the domestic shipping industry by existing domestic ship operators and attract investment from new operators and investors, domestic ship operators are hereby authorized to establish their own domestic shipping rates – provided, that effective competition is fostered and public interest is served. The regulatory body shall monitor all domestic shipping operations and exercise regulatory intervention where it is established after due process that public interest needs to be protected and safeguarded.

d) No foreign vessels shall be allowed to transport passengers and/or cargo between ports or places within the Philippine territorial waters, except when a grant of Special Permit is granted by the regulatory authority because it is warranted by public interest, and there are no domestic vessels available or suitable to provide the needed shipping service.

4) Proposed Sea Transport Projects

The proposed and on-going projects of DOTC for sea transport projects as stated on the Medium Term Development Plan from year 2011-2016 are described below:

1. ***Greater Maritime Access (GMA) Port Project***

Project Description	*:*	This consists of the following components: - Onshore passengers and vehilcles terminal. - Access pier to RoRo ramp. - RoRo Ramps - Berthing Dolphins
Project Cost	*:*	Euro 170.1771 Million or PhP 11.783 Billion
Financing	*:*	French Export Credit
Timeframe	*:*	2008-2012
Status	*:*	On-going

2. ***Acquisition of Search and Rescue (SAR) Vessels (10 units - 41 meter SAR Vessels)***

Project Description	*:*	Supply and delivery of ten (10) units 41 meter search and rescue vessels
Project Cost	*:*	Php 4.556B
Financing	*:*	not yet determined
Timeframe	*:*	Proposed to be acquired in 2011
Status	*:*	For NEDA-ICC-TB re-deliberation

3. ***Philippine Maritime Safety, Security, and Surveillance System Project***

Project Description	*:*	The project involves the upgrading and/or replacement of existing information and communications systems, equipment and facilities that the Philippine Coast Guard uses in the conduct of its various maritime service operations and the performance of its legally mandated functions. The proposed upgrading and/or replacement is envisioned to be carried out through the provision of advance technologies and equipment and the development and installation of a number of application and database system that will computerize and automate most of PCG's systems and processes.
Project Cost	*:*	Php 3,901,628,000.00
Financing	*:*	Korean Export-Import Bank (KEXIM) Through Economic Development Cooperation Fund (EDCF)
Timeframe	*:*	2010 - 2012
Status	*:*	For NEDA approval

4. ***Maritime Disaster Response Helicopter Acquisition Project (MDRHAP) (7 units)***

Project Description	*:*	Procurement of seven (7) helicopters those are most cost-effective in fulfilling the mandates of the PCG multi-mission.
Project Cost	*:*	US$ 121,754.03M
Financing	*:*	not yet determined
Timeframe	*:*	2010 - 2011
Status	*:*	For NEDA-ICC deliberation/approval

5. ***PCG Enhance of Communications System for Maritime Safety and Security Phase II***

Project Description	:	The proposed system consists of control center for PCGHQ, radar system; VHF Communications System, satellite link with parabolic antenna for radar sites, operation control and monitoring equipment for PCG HQ; VHF-HF radio communications system; air to ground communications system, VHF-GMDSS system, one L:HS (to include ATON AIS System), power supply system, and spare parts.
Project Cost	:	P 495M
Financing	:	JICA Grant
Timeframe	:	Proposed 2010
Status	:	For consideration in the next JICA's application for General Grant Aid for Fisheries

6. ***Education and Human Resource Management System Development Project (EHRMSDP) PCG***

Project Description	:	Establishment of a permanent faculty system; development and strengthening of training programs on maritime enforcement; development and strengthening of training programs on ship operations.
Project Cost	:	----- (c/o JICA)
Financing	:	JICA Grant
Timeframe	:	2007 - 2012
Status	:	On-going (3rd year)

7. ***Manila Bay-Pasig River-Laguna Lake (MAPALLA) Ferry Links and Terminals (FS)***

Project Description	:	***(Phase I)*** It will focus on the assessment of the performance of the Pasig Ferry System, the viability of the ferry operations, and the operation and management of the terminals. It shall likewise involve the identification of the best privatization option or arrangement that is consistent with existing government rules and regulations and attractive to the private sector, to adopt for the privatization of the Pasig ferry terminals operation and management. ***(Phase II)*** It will involve the identification and prioritization of feasible ferry service connections and technically desirable terminal locations at Laguna Lake and Manila Bay and overall assessment of their interconnection with the Pasig River Ferry System. This Phase of the study will focus primarily on market analysis, technical, economic and financial feasibility analyses, as well as social and environmental impact assessment of each recommended ferry link/route and the entire MAPALLA Ferry System as a whole.
Project Cost	:	Php 7,000,000.00
Financing	:	DOTC's 2009 Feasibility Study Fund
Timeframe	:	6 months (2010 – 2011)
Status	:	For bidding

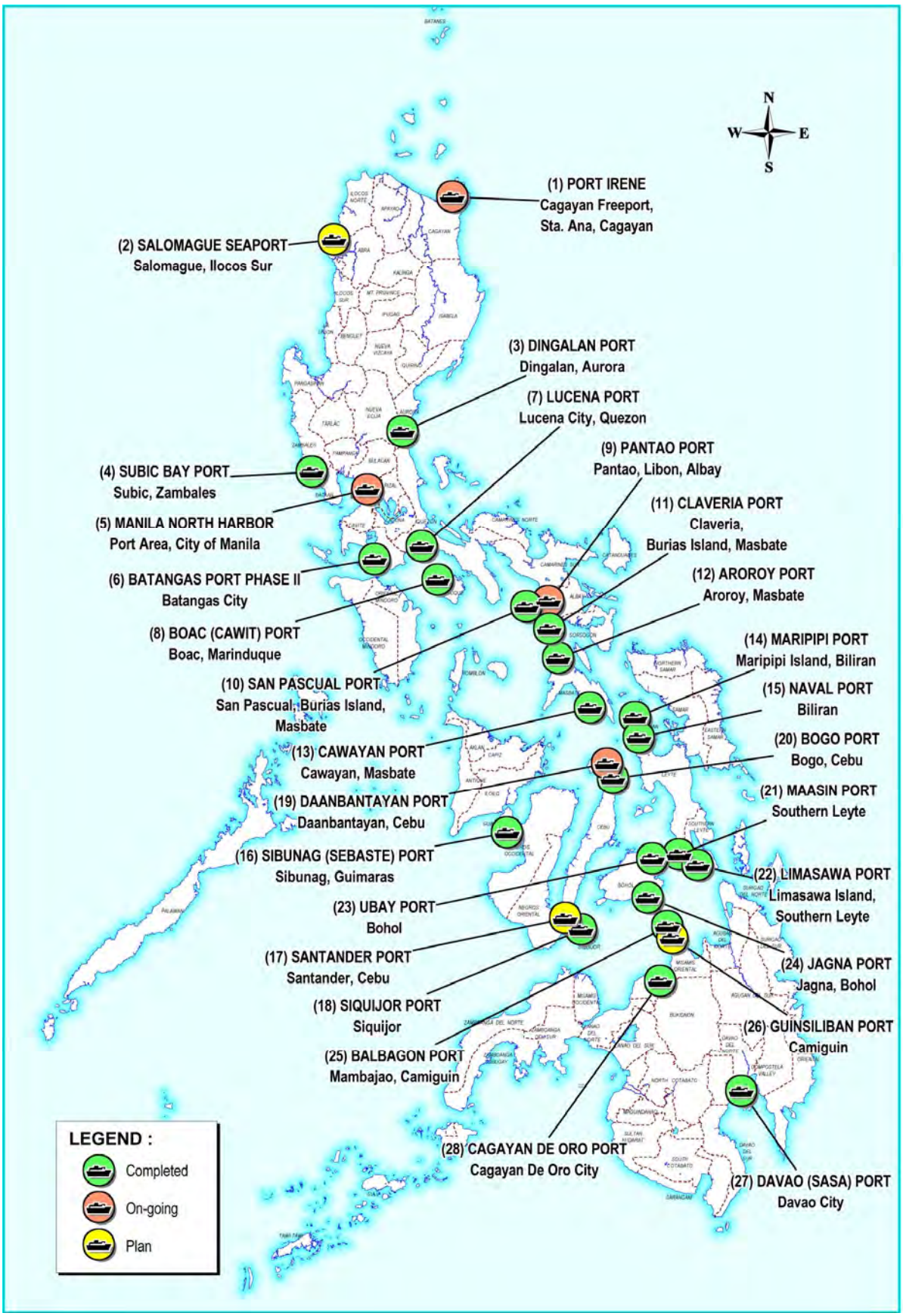
8. ***Philippine Coast Guard Asset Acquisition Master Plan***

Project Description	*:*	Comparative review and presentation of the PCG's 15 Year Capability Development Plan versus what PCG has already acquired. Review of completed feasibility studies/projects for aircraft and vessel acquisition. Data gathering and analysis of marine incidents for the past 15 years (starting from the Doña Paz and Doña Marilyn worst maritime incidents). Review of the PCG budget requirement on operation and maintenance of vessel and aircraft (in terms of fuel, oil, lubricants). Review and assessment of the operation and maintenance plan/program of PCG for the vessel and aircraft.
Project Cost	*:*	Php 1,000,000.00
Financing	*:*	DOTC's 2009 Feasibility Study Fund
Timeframe	*:*	10 weeks (2010)
Status	*:*	For bidding

9. ***Preliminary and Detailed Engineering Studies for the Development of Romblon PCG Support Base (Feasibility Study)***

Project Description	*:*	Preliminary activities (conduct of surveys/ investigation/ data/ information collection and preparation of IEE and detailed engineering design.
Project Cost	*:*	Php 10,000,000.00
Financing	*:*	DOTC's 2009 Feasibility Study Fund
Timeframe	*:*	7 months (2010 – 2011)
Status	*:*	For bidding

Recently completed, on-going and planned projects for sea transport are shown in **Figure 2.4.4-3.** Other relevant project details are given in **Annex 2-1**.



Source: DOTC

FIGURE 2.4.4-3 LOCATION OF SEAPORT PROJECTS

2.4.5 Air Transport Sub-Sector

1) Airport Locations

There are eighty-five public airports in the country; four of which are international airports (Ninoy Aquino International Airport, Mactan-Cebu International Airport, Subic International Airrport and Diosdado Macapagal International Airport) catering to regular international flights. There are also four alternate international airports Laoag, Davao, General Santos and Zamboanga, the first two have regular international flights. The rest are classified as trunkline, secondary and feeder airports. **Figure 2.4.5-1** shows the location and categories of the national airports in the country

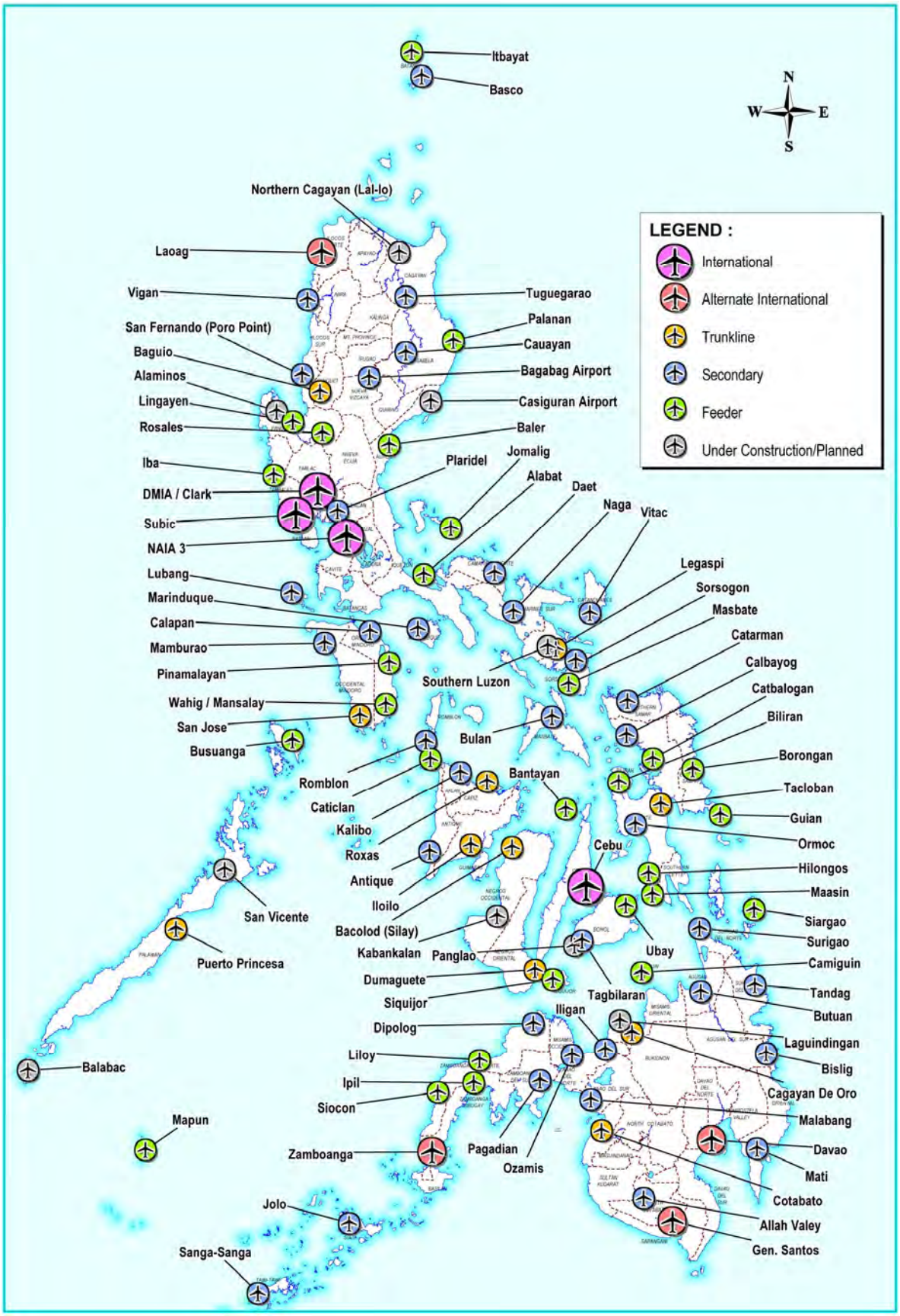
Separate airport authorities operate and manage the four international airports, while the rest of the national airports are operated and managed by the Civil Aviation Authority of the Philippines (CAAP). The CAAP is also the government entity responsible for the administration of air navigation, aviation safety, air traffic control, updating of aeronautical information, and licensing of airmen.

The number of air passengers has been on a continued upsurge, registering 36,162,930 passenger-trips in 2008, up from 19,894,800 in 2001. However, both the volume of air cargo and the number of aircraft movement have a roller coaster trend after registering highs in 2004. More than two-thirds of the total passenger-trips and air cargo were handled at the Ninoy Aquino International Airport, the premier airport of the country. **Table 2.4.5-1** shows the number of air passengers, air cargoes and aircraft movements for the years 2001 to 2008.

TABLE 2.4.5-1: AIR TRAFFIC IN THE PHILIPPINES, 2001 - 2008

	2001	2002	2003	2004	2005	2006	2007	2008
Passenger-Trips	19,894,800	20,066,679	20,226,662	23,698,742	24,673,592	26,682,198	34,259,543	36,162,930
Cargo (kilos)	509,275,627	548,397,495	526,826,296	698,543,237	591,040,214	539,229834	678,306,757	537,669,657
Aircraft Movements	340,645	365,138	371,567	374,867	328,948	326,510	609,419	565,894

Source: Air Transportation Office



Source: Air Transportation Office

FIGURE 2.4.5-1: MAP O F PHILIPPINE NATIONAL AIRPORTS

2) Air Transport Problems

Air transport has registered a rapid growth over the past decade, with domestic traffic exceeding international benchmarks. In addition, public sector institutions have undergone needed reforms, and competing airlines are offering cost-effective services. On the other hand, airport infrastructure development has not kept up with traffic development, and the country's premier international airport is approaching its capacity ceiling notably with respect to its runway.

Airport Infrastructure

The Philippines has 254 airports, of which only 85 are public and provided with paved runways. They have varying degrees of compliance with international aviation standards. Ten airports are classified as international, of which seven are considered class 1. About half of the 85 top airports are classified as community airports, which are small with short runways and serving only general aviation. The middle category is occupied by 34 primary airports – of which 15 are rated as Class 1. Pagadian, which recorded zero traffic in 2008, belongs to this category. Seven of 19 class 2 primary airports have very little traffic (less than 20 passengers a week).

Airline Services

From a virtual monopoly, air transport services have become competitive resulting largely from Executive Order (EO) 219 issued in 1995. New players entered the domestic scene, such as Cebu Pacific, Air Philippines, Asian Spirit, Grand Airways, Mindanao Express, Pacific Airways, Laoag International Airlines, and South East Asian Airlines. Consolidation and mergers since 2000 reduced the number of viable operators – a pattern observed in many other countries that have deregulated their aviation industry.

A research study of ten routes covering the period 1981–2003, concluded that airfare per kilometer was 10% lower, on average, on routes with at least two airlines. Twenty-three routes, representing more than 90% of domestic airline passengers, have at least two airlines by 2003, indicating that most passengers benefited from lower fares, more frequent services, and more consumer choices.

Sub-Sector Governance

The development of the aviation sector –despite its substantial improvements- has been beset by serious governance issues. The 3rd Airports Development Project was started in 1998 supported by an ADB loan of $167 million. The project was aimed at improving infrastructure and facilities of six airports in Southern Philippines. The project suffered from substantial cost and time overruns resulting mainly from unresolved land acquisitions issues and was finally aborted in 2005. The cancellation in 2003 of the Terminal 3 concession to PIATCO, and the botched handling of the turnover, meant that a completed modern $600 million facility remained unused for five years. When it opened in 2008, its operation was limited to domestic flights, for which it was not intended. The envisaged transfer of international flights to the terminal is still being awaited. The failure of this flagship project had major repercussions on subsequent PPP projects in all sectors.

Formerly a line agency under DOTC, the Civil Aviation Authority of the Philippines (CAAP) was corporatized in 2008. CAAP is tasked with the development and management of airport facilities, and the administration of aviation activities in the Philippines, including licensing of airmen, aircraft certification for airworthiness, design of aerodromes, clearance for obstructions and other rules to ensure safety in air travel. CAAP also sets rates for the use of government airport and air navigation facilities.

The proposal to corporatize the aviation administration took more than 15 years to realize. It remains to be seen whether the new institution will live up to earlier expectations. While it may be too early to evaluate the performance of the new body, some features in its statute are contrary to good practices:

(a) A Board of Directors composed of five department Secretaries, who, because of existing prohibitions on multiple compensations, are likely to delegate their functions to lower-level officials;

(b) The combination of regulatory and commercial powers within one agency lends itself to the risk of conflict-of-interests;

(c) Failure to define the authority's relationships with the autonomous airport bodies (over the international airports of Manila, Subic, Mactan-Cebu, and Clark) and with the Civil Aeronautics Board.

Air Safety

The FAA has downgraded the category of the Philippines' aviation capability in providing safety certification and oversight for international carriers, citing among others:

- inadequate and, in some cases, nonexistent regulatory legislation;
- lack of advisory documentation;
- shortage of experienced airworthiness staff;
- lack of control on important airworthiness related items such as issuance and enforcement of Airworthiness Directives, Minimum Equipment Lists, investigation of Service Difficulty Reports, etc.;
- lack of adequate technical data;
- absence of Air Operator Certification (AOC) systems, and non-conformance to the requirements of the AOC System;
- lack or shortage of adequately trained flight operations inspectors including a lack of type ratings;
- lack of updated company manuals for the use by airmen;
- inadequate proficiency check procedures; and
- inadequately trained of cabin attendants.

3) Air Transport Development Policies and Strategies

According to the recent study of Aus-AID, the National Transport Plan through the DOTC, NEDA and DPWH the policies and strategies that needs legislative and executive actions are presented below:

a) Franchises for the operation of public air transport services shall be issued by the Civil Aeronautics Board (CAB) to an applicant upon proof of compliance with citizenship and technical requirements, and financial capacity. Public necessity shall be presumed.

b) Fares and rates shall be set by public air transport service operators subject to prior sufficient notice to the public. Should there be market failure or externalities that adversely affect the public interest, the CAB may, upon due notice to, and hearing of the parties-in-interest, intervene and set the fare or a fare range within which adjustments may be made, or

implement such measures as may be required by the circumstances with due regard to the interests of the passengers and the operators.

c) The CAAP and the CAB shall regularly upgrade and update their standards on safety, level of service, and environmental sustainability in keeping with international standards and practice, and shall strictly implement and enforce the same. There shall be no compromise on matters of safety.

d) No foreign aircraft shall be allowed to transport passengers and/or cargo between airports within the Philippine territorial jurisdiction, except when a Special Permit is granted by the CAB because it is warranted by public interest, and there are no domestic aircraft available or suitable to provide the needed transport service.

4) Proposed Airport Projects

Recently completed, on-going and planned projects for sea transport are shown in **Figure 2.4.5-2.** Other relevant project details are given in **Annex 2.1**.

Source: DOTC

FIGURE 2.4.5-2 LOCATION OF AIRPORT PROJECTS

CHAPTER 3

REVIEW OF PAST AND CURRENT PPP PROJECTS

CHAPTER 3
REVIEW OF PAST AND CURRENT PPP PROJECTS

3.1 ROAD TRANSPORT SUB-SECTOR

The figure below shows the expressway map of the country. Expressway projects in the Philippines have a long history which starts as early as 1960s. However participation of the private sector in construction or operation and maintenance has just started recently. Detail discussion follows in the succeeding section.

FIGURE 3.1-1 EXPRESSWAY MAP OF THE PHILIPPINES

3.1.1 Brief History of PPP Projects

3.1.1.1 Introduction

In late 1960's, the Philippine Government launched the construction of two Expressways along the alignment of the Manila South and Manila North Roads. Both the Manila South and Manila North Roads, as the backbone of the road network of Luzon Island servicing the regions south and north of Metro Manila, were already experiencing traffic congestion along its length. The planned expressways would start from EDSA in Magallanes up to Muntinlupa in the south and from EDSA in Balintawak to Tabang in Malolos, Bulacan.

For the implementation of these projects, the then Bureau of Public Highways (BPH), an agency under the then Department of Public Works, Transportation and Communication (DPWTC), prepared the detailed designs of the two expressways. Due to the narrow corridor available for the South Luzon Expressway, its ROW width was reduced to 40.00 meters plus two (2) service roads on both sides. For the North Luzon Expressway, the alignment adopted traverses practically open rice fields and adopted a ROW of 60.00 meters. Because of the limited space along the South Road to develop entry/exit points to the expressway, the designs prepared by BPH were mostly the compact diamond type of interchanges with toll gates and plazas on all legs to issue tickets and collect toll fees to users. Though there was no construction in the design of entry/exit points along the North Luzon Expressway, the same compact diamond type of interchanges were also adopted.

The construction of these two expressways was undertaken by the then Construction Development Corporation of the Philippines (CDCP), now known as the Philippine National Construction Corporation (PNCC), on a turn key basis. For the early completion of the project, the Government also used the Engineering Battalion of the Philippine Army. After construction, CDCP operated the expressway as tollroad.

Through Presidential Decree (PD) No. 1112 in 1977, the "Toll Operation Decree" was issued and the Toll Regulatory Board (TRB) was created. Under PD no. 1113 in 1977, CDCP was granted, for a period of thirty (30) years from May 1, 1977, the right, privilege and authority to construct, operate and maintain toll facilities with extensions to Pangasinan of the North Luzon Expressway (NLEX) and to Quezon of the South Luzon Expressway (SLEX).

Since then, NLEX has been extended to Mabalacat, Pampanga, initially with two lanes for widening to four lanes of divided expressway. For almost 20 years, the progress was snail paced, completing the four lanes only up to Dau in Pampanga, with the extension to Mabalacat with only two lanes. For SLEX, its extension to Calamba City in Laguna was constructed in 1980's into a four-lane divided expressway. Its extension to Pangasinan and Quezon Provinces, however, could not be expected within the given franchise period, considering, among other things, the very toll fees allowed by TRB.

During the implementation of NLE and SLE, DPWTC was also constructing the Manila-Cavite Coastal Road and Reclamation Project (MCCRRP). With PD no. 1084 in 1977, the Public Estate Authority (PEA), now Philippine Reclamation Authority (PRA), was created to reclaim land, to develop all kinds of real estate owned by the government, and to provide the services for the efficient utilization of the properties. PRA submitted a proposal to TRB for the operation of the Manila-Cavite Coastal Road (now known as R-1 Expressway) as a toll facility.

3.1.1.2 Conditions of Existing Expressways in mid 1990's

The conditions of Expressways in mid 1990's under the franchise of PNCC for SLE and NLE and PRA for R-1 Expressway were as follows:

a) SLEX and NLEX

- Both Expressways needed immediate capacity expansion to cater to the increasing traffic demands;
- Widening SLEX from EDSA to Alabang in Muntinlupa within 40.00 meters ROW was not enough to improve its level of service;
- Pavement structures were in fair to bad conditions;
- The constructed compact diamond type of interchanges contributed to heavy traffic congestion due to:

  - short approach roads to entry/exit points;
  - queuing vehicles which extended at exit points, blocking one or two lanes of the expressway carriageway;
  - the area has evolved as a major transfer point of passengers and commuters; and
  - practically no terminals or loading/unloading bays for public utility vehicles.

- The narrow roads leading to the expressways were heavily congested with commercial and residential establishments developed along the road.
- There was a high volume of pedestrians around the interchange.

b) R-1 Expressway

- The pavement structure of the expressway, when it was opened to public, was easily damaged due to the soft foundation.
- The beginning and end of the expressway in MIA Road and Bacoor are heavily congested.
- At MIA Road is a big Mall being used as a turn around for buses plying EDSA.
- At Bacoor, the site is the merging area of traffic from Alabang-Zapote Road, Aguinaldo Highway, Molino Road, Evangelista St., and Tirona Road to Cavite City.

3.1.1.3 BOT Approach in Infrastructure Development

In 1990, Republic Act (RA) No. 6957, otherwise known as the BOT Law, authorized the financing, construction, operation and maintenance of infrastructure projects by the private sector.

In the transport sector, private investors were very much interested in the development of expressways. Under the BOT Law, private investors could participate in the development of expressways through the following modes:

- Joint Venture with existing franchise owners such as PNCC and PRA; and
- Solicited Approach

a.) Joint Venture Approach

With the passage of the BOT Law, several private investors approached existing franchise holders to enter into a joint venture agreement for the improvement and expansion of SLEX, NLEX and R-1 Expressway.

1.) SLEX (EDSA to Alabang)

In view of the narrow ROW of SLEX from EDSA to Alabang, the most logical approach to expand its traffic capacity is the construction of an elevated structure above the existing SLEX. The study for a viaduct structure above SLEX which was conducted with USAID assistance in 1992 showed that the project is feasible as a privately-financed toll facility.

The CITRA Group, an Indonesian company that constructed most of the elevated toll roads in Jakarta, approached PNCC to enter into a joint agreement for the improvement and expansion of SLEX composed of the following project:

- Improvement and widening of SLEX from EDSA to Alabang, with a length of about 14 km;.
- Metro Manila Sky – an elevated structure that would connect SLEX and NLEX above SLEX from Alabang, Pres. Quirino Avanue, Araneta Avenue and Bonifacio Road to NLEX, with a distance of about 34.00 km.; and
- Metro Manila Expressway (C-6 Expressway) starting from Bicutan interchange along SLEX to NLEX between Marilao and Bocaue interchanges, with a total length of about 95.00 km.

The project proposal submitted by the JV of PNCC and CITRA to DPWH and TRB was for the development of the following projects:

STAGE 1

- Improvement and widening of SLEX from EDSA to Alabang; and
- Construction of Metro Manila Skyway (MMS) on elevated structure from Bicutan to Buendia Avenue including an expressway linked to Ayala Avenue.

STAGE 2

- Metro Manila Skyway (MMS) from Bicutan to Alabang along SLEX.

STAGE 3

- Metro Manila Skyway (MMS) from Bicutan to NLEX following the alignment of SLE, Quirino Avenue, Araneta Avenue and A. Bonifacio Road.

STAGE 4

- Metro Manila Expressway from Bicutan interchange of SLEX to NLEX between the Marilao and Bocaue interchanges traversing the towns of San Jose del Monte, Montalban, Antipolo and Tagaytay.

PNCC/CITRA entered into a Supplemental Toll Concession Agreement (STOA) with TRB for the implementation of the project. The status of implementation of the project is as follows:

STAGE 1

- Widening and upgrading of SLEX from EDSA in Magallanes to Alabang in Muntinlupa was completed in 1999;
- Elevated expressway above SLEX from Bicutan to Pasay Road was also completed in 1999.

STAGE 2

- Construction of the elevated expressway from Bicutan to Alabang started in 2008 and for completion in 2010.

STAGE 3

- The feasibility study for the development of the elevated expressway from Pasay Road to NLEX has been submitted to DPWH.

2.) NLEX

Two private investors approached PNCC for the improvement and expansion of NLEX.

a) Benpres Group submitted a project proposal composed of:

- Improvement and widening of NLEX from EDSA in Balintawak to Mabalacat in Pampanga and from Burol along NLEX to Malolos in Bulacan with a total length of about 86 km;
- Construction of C-5 Expressway from Katipunan Avenue and C.P. Garcia intersection to Letre Road in Malabon, following the proposed alignment of Luzon Avenue and Katipunan Avenue, with a length of about 22.20 km; and
- Construction of the Subic Link Expressway from San Simon interchanges along NLEX to Subic Free Port with a length of 67 km.

b) Italthai Group also submitted a project proposal with the improvement of NLEX from Balintawak to Mabalacat and its further extension towards the north to Tarlac City with a length of 122 km.

The project proposal of the Benpres Group (now known as NLTC), was selected and awarded a STOA due to the following reasons:

- the Subic Link Expressway is an important access to the Subic Free Port, an important economic zone of the government; and
- the C-5 Expressway is expected to strengthen the road network of Metro Manila and at the same time, decongest EDSA.

The status of the implementation of the project is as follows:

a) Phase 1

- Subic Expressway from Subic Free Port to Tipo constructed initially into two lanes with climbing lanes at steep gradients for slow moving vehicles, with a length of 8.50 km, was completed in 1997.

- Widening and upgrading of NLEX was completed in 2005.

- Eight lanes from Balintawak to Burol interchange.
- Four lanes from Burol interchange to Tabang in Malolos.
- Six lanes from Burol interchange to Sta. Rita interchange.
- Four lanes from Sta. Rita to Dau in Pampanga.

b) Phase 2

- C-5 Expressway Construction from Mindanao Avenue to Mac Arthur Highway, with a new interchange at its intersection with NLEX, is on-going.
- C-5 Expressway to Letre Road will no longer be pursued as it was proposed to follow the PNR ROW towards C-3 and R-10 Roads.
- The change in alignment is with the proposal that the NLEX and SLEX connection will follow the PNR ROW.
- NLTC entered into a memorandum of an understanding with PNR for the use of the PNR ROW.
- The project proposal of the new NLEX/SLEX Connector Road is under preparation.

The problems encountered during implementation are:

a.) The government turned down the design standards for the expansion and improvement of the compact diamond type of interchange in order to reduce the area to be acquired.
b.) Difficulty of clearing illegal dwellers occupying the ROW of the proposed Luzon and Republic Avenues previously acquired by MMSS and DPWH, respectively, for the C-5 Expressway.
c.) To connect the wide Katipunan Avenue with the C-5 Expressway being constructed by NLTC, DPWH is presently undertaking the extension of Katipunan Avenue to cross Commonwealth Avenue with a flyover structure to connect with Luzon Avenue, and also the extension of Congressional Avenue to connect with the Luzon Avenue, all on new alignments.
d.) The above government action developing an alternate free road to the C-5 Expressway from Katipunan to Mindanao Avenue would affect its commercial viability as a toll facility.
e.) SBMA with financial assistance from JBIC constructed the SCTEX which would make the development of the Subic Expressway to NLEX not financially feasible for private sector implementation.

3.) MCTE

UEM-Mara Group, a Malaysian Company submitted a proposal to PRA for the upgrading and widening of the R-1 Expressway including its extension from Bacoor to Rosario in Cavite, with a total length of about 22 km, and the construction of C-5 Expressway from SLEX to R-1 Expressway, with a length of 7.50 km. The feasibility study and its detailed engineering design for R-1 and C-5 Expressways were undertaken by DPWH in the 1990's. The JV between UEM-Mara and PRA, now known as MCTE, entered into a STOA with TRB for the implementation of the project.

The status of implementation is as follows:

a) The reconstruction and widening of R-1 Expressway from MIA Road to Zapote Junction was completed in 1998.

b) The construction of R-1 Expressway extension to Kawit with a length of 4.00 km on reclamation along the coast of Manila Bay is on-going for completion within 2010.

Issues and problems encountered by MCTE in the implementation of the project are:

a) The proposed reclamation works along the coast of Manila Bay supposedly to be undertaken by other entities did not push through.
b) MCTE experienced significant difficulties and delays in attaining the requirements of its financiers for financial closure – e.g. adequate toll rates and adjustment formulae to cover costs, complete clearing of ROW, ECC, technical audit showing soundness of the works done, etc.
c) The reclamation works for the R-1 Expressway extension encountered a strong opposition by the communities along the coast as well as fishermen who claimed that their livelihood would be affected.
d) The approved alignment of C-5 Expressway was revised several times including the type of interchange to be adopted at its intersection with Aquino Avenue due to the requests by big land owners and developers.
e) The problem of clearing of the required ROW of C-5 Expressway with an approved ROW width of 50.00 meters delayed the start of its construction.
f) The present DPWH construction of the C-5 alternate road practically follows the original alignment of the C-5 Expressway from SLEX to Multi-National Subdivision just before Aquino Avenue then to a new alignment running southward toward Bacoor in Cavite on a 30.00 meter ROW width.
g) MCTE could no longer develop the C-5 alternate road as its commercial viability is now drastically affected.

4.) SLEX (Alabang to Sto. Tomas)

Several unsolicited proposals from prospective investors had been presented to PNCC. Aside from MTD, earlier Hopewell and NDC also planned to invest in the project, but these did not materialize because of financial and legal issues. PNCC selected MTD (a Malaysian toll ways firm) as its investor after considering the latter's unsolicited proposal for the project and the two entities entered into a JV forming SLTC.

The project components are:

a) Widening and reconstruction of Alabang viaduct from six lanes to eight lanes;
b) Widening and upgrading of the existing SLEX from Alabang to Calamba into eight lanes with a length of about 27.30 km.
c) New construction of a 4-lane divided expressway from Calamba in Laguna to Sto. Tomas in Batangas with a length of about 8.00 km.

The construction of the projects started in 2009 to be completed in three years time. The project also included the construction of the Daang Hari extension to SLEX as a toll road. The issues and problems encountered during construction are described below:

a) The alignment of SLEX from Calamba to Sto. Tomas was redesigned to take into consideration of the request of a commercial/industrial part in the area for access to the expressway, and to avoid conflict with the PNR line.
b) Financial closure was delayed due to the bank clearance on the PNCC franchise expiration in May 2007.

c) Significant delays were met in the ROW acquisition due to documentation, negotiation, court expropriation, property evaluation and resettlement of informal settlers.
d) Several changes were made in the design scope and requirement – e.g. retrofitting against total reconstruction of the Alabang viaduct and the design of the SLEX/STAR interchange in Sto. Tomas, Batangas.
e) The difficulty in the traffic engineering and management during construction requiring on-the-spot revision and adjustment of the planned sequence of construction activities usually resulted in longer and unnecessary delays in the completion of the project.

b) Solicited Proposal under BOT Law

Due to the perception that there are no longer viable expressway projects for private investors after the JV projects discussed in Sector 3.1, the government conducted the detailed feasibility and in same instances, the detailed engineering design defining the public and private participation (PPP) in the implementation of expressway projects. To attract private sector participation of the implementation of these projects, the government should display its commitments in undertaking the public sector component. The projects that had been completed and/or under implementation under the solicited proposal mode are as follows:

- Southern Tagalog Arterial Road (STAR)
- Subic-Clark-Tarlac Expressway (SCTEX)
- Tarlac-Pangasinan-La union Expressway (TPLEX)

1) Southern Tagalog Arterial Road (STAR)

Immediately after the LESS Study, DPWH engaged a local consultant for the conduct of the FS and the DED of the project. The results of FS and DED were utilized in the preparation of the Project Implementation Plan Report (PIPR) to NEDA for implementation of the project through ODA. Due to the position of PNCC that the segment of the project from Calamba to Sto. Tomas is under their SLEX franchise, NEDA's approval covered the section from Sto. Tomas to Batangas City with the following conditions:

a) The first segment from Sto.Tomas to Lipa City with a distance of about 20.00 km would be constructed into a 4-lane divided expressway with financial assistance from OECF; and
b) The remaining segment with a length of about 20.00 km would be implemented under the private sector under the BOT Law.

The preparation of the BOT proposal was undertaken by DPWH with assistance from USAID through the BOT Center. The project proposal was submitted to NEDA for review and approval for implementation under the BOT Law. Being the first solicited project under the BOT Law, DPWH, TRB, BOT Center and NEDA prepared the implementation under a PPP arrangement of the BOT Law. The PPP arrangement is for a private investor to extend the STAR from Lipa City to Batangas City by stage construction, initially as a two-lane expressway, then operate STAR as a toll facility that includes the DPWH completed portion from Sto. Tomas to Lipa City. Because of the offer to include the completed section of STAR done by the government, the private sector will shoulder Php 500 Million required on ROW acquisition. During the O&M of STAR, the two-lane expressway will be widened to a four-lane divided expressway when

traffic reaches 27,000 UPD or five (5)years after start of operation, whichever comes first.

The project was advertised internationally through the different embassies, and had attracted nine interested private investors for the implementation of the project. Out of the nine interested investors, five were short listed to participate in the bidding. The bidding documents that were made available to the short listed investors included the following:

- The FS and DED of STAR;
- The project configuration and level of improvement, i.e. initial two (2) lanes to be widen to four (4) lanes;
- Clearances and approvals such as ECC from EMB of DENR and project endorsement from RDC;
- Implementation schedule from award to construction and operation; and
- Draft contract

After the pre-bid conference, submission of questions, clarifications and answers, only three of the five short listed investors submitted their bids. The project was awarded to SIDC; the bidder that submitted the lowest toll rate to users of the toll facility. TRB review of the Toll Concession Agreement (TCA) took more than one (1) year. It had to closely scrutinize the toll adjustment formulae and other O&M aspects. This was despite the fact that TRB had been part of the DPWH Technical Working Group (TWG) and Bid Award Committee (BAC) and the toll adjustment formulae were part of the bidding documents.

After award, SIDC engaged a Consultant to review and introduce corrections on the DED for the implementation of the initial two lanes. SIDC also engaged an IDC to work for the government to review and approve the design works of SIDC Consultant. ROW acquisition by DPWH was delayed due to opposition of owners/occupants to the take-over and/or to the low compensation offered, lengthy negotiations and expropriation, and late government fund release.

Problems encountered during implementation were:

- The maintenance works of the completed sections of STAR which was opened to public as a free road was based on the maintenance allocation for ordinary roads.
- The low maintenance fund allotted to STAR resulted in inadequacy of necessary maintenance works, resulting in substandard riding surface, uncontrolled vegetation on shoulders, broken fences, littering by vendors along the road, and damages caused by accidents during evening vehicle races and contests by young drivers.
- The above problems advanced the turn over for the O&M of the STAR Stage 1 to SIDC.
- The conversion of Stage 1 to a toll facility was for SIDC to cover only the O&M costs.
- Before the turn over, SIDC conducted an inventory and status of STAR, Stage 1 identifying damages and works to be undertaken by DPWH to attain its original state.
- There was a long delay in the financial closure for the construction of Stage 2 (awarded in 1998), especially for the loans.
- STAR traffic was much lower than estimated due to failure to complete the gap between SLEX and STAR.

After construction of Stage 2, SIDC turned over the completed STAR to the government, and TRB issued the TOA for the operation of the STAR as a toll facility. Problems encountered during this stage were:

- Poor connection between STAR and Batangas Port
- Proposed flyover at the intersection of STAR with the national highway leading to Bauan was not implemented by the government.
- The provision provided in the TOA that the widening from two to four lanes would be undertaken when the traffic reaches 27,000 VPD or five years after opening needs to be revisited mainly for safety reasons.
- Stage 2 which traverses a rolling to mountainous terrain was considered accident prone area marked by several fatal accidents because many motorists take the risk of overtaking the numerous bunches of slow-moving trucks going uphill.

2) Subic-Clark-Tarlac Expressway (SCTEX)

SCTEX was identified as a major transport facility to develop and interconnect the former US military bases and now the new economic zones of Subic and Clark, as well as to link with the Hacienda Luisita in Tarlac.

The FS was conducted by BCDA establishing a horizontal alignment that traversed open and underdeveloped areas and a vertical alignment that more or less balanced earthworks for excavations and embankments. The other consideration in the selection of the vertical alignment involved alternatives of viaduct or high embankments in many sections to mitigate possible damage due to lahar flow.

The result of the study showed that SCTEX was technically, environmentally, and economically viable project due to the high volume of diverted traffic from the existing San Fernando-Olongapo Road. One of the most important functions of SCTEX is the provision of a fast, safe and reliable transport facility to major economic zones in Subic, Clark and Hacienda Luisita. The other contribution of SCTEX is that it has opened a good connection between the central and Northern part of Luzon to Metro Manila that was affected by the lahar flow along the Bamban River in Tarlac. Previous attempts to extend the NLEX to the northern part of Luzon were discouraged by the expensive and difficulty to cross the Bamban River. With the SCTEX in Tarlac, it pushed the early extension further north via the TPLEX which was being implemented under the BOT Law.

The construction of SCTEX was financed by JBIC. The contracting parties were DPWH/BCDA and the winning contractors in accordance with the conventional process for regular road projects under PD 1594 and RA 9184. The lone bid as submitted substantially exceeded the Approved Budget for the Contract or ABC. This required (i) a review of the design using value engineering to cut down costs and (ii) additional budgeting. Cost overruns during construction also called the provision of additional funds.

SCTEX Stage 2, which involves the O&M of the expressway as a toll facility, was tendered using the BOT Law. The completed SCTEX is at comparable to existing toll roads in developed countries. The expected traffic that would be attracted to SCTEX, however, was very low due to the limited number of constructed interchanges around the towns and municipalities traversed by the project. The public is proposing the construction of more interchanges to increase access to SCTEX.

3) Tarlac-Pangasinan-La Union Expressway

The planned development of SCTEX encouraged the government to extend NLEX to northern Luzon to by-pass the heavily congested cities, towns and municipalities between Tarlac and Rosario, La Union. TPLEX would now shorten travel time from Manila to Baguio, the summer capital of the country. There are now moves for the conduct of the TPLEX extension further north to San Fernando, La Union.

The FS conducted for TPLEX was undertaken by DPWH with assistance from Pacific Consultants, International, a Japanese consultant operating in the Philippines. The selection of alignment, type of structures at road intersections, method and procedure of clearing the ROW, payments of affected land owners and improvements, relocation of affected illegal settlers were planned with the participation and approval of all stakeholders such as the communities traversed, concerned LGU's, big land owners and developers, transport companies and operators. DPWH was then about to start the construction of the proposed Urdaneta flyover along the Manila North Road which was a major issue during the series of public hearings held in Pangasinan. Attendants during the said hearing were not only from Urdaneta but also from neighboring municipalities expressing their opposition to the proposed flyover. The positive results of these hearing were:

- Memorandum of Agreement (MOA) between the concerned provincial and municipal officials on the selected alignment;
- Method and procedure for ROW acquisition both for the private land owners and illegal dwellers;
- Endorsement of the project by the RDC; and
- The participation of EMB staffs in the different stages of the FS paved the early processing and issuance of the ECC from DENR.

DPWH prepared the PIPR defining the public and private participation (PPP) approach under the BOT Law for review and approval by NEDA. The original intension was that the public sector component would be undertaken with ODA, while the private sector component be through a competitive bidding as defined in the PIPR. During the NEDA review, local private investors through the Philippine Contractors Association proposed that, instead of implementing the project thru ODA/GOP funding, the project be implemented thru PPP using BOT Law, to reduce the government financing burden and tap private resources. This proposal was approved in principle by NEDA and the President.

The government advertised the project for BOT implementation with the information that BOT Company selection will be based on the parameter specified in the bid documents, i.e., lowest toll rate, given the amount of government financial support (GFS) or subsidy.

After the bidding process, PIDC, the winning BOT Company, has been preparing the DED, the ROW and parcellary plans of affected land and improvement, the Resettlement Action Plan (RAP) to affected families.

The ROW acquisition by DPWH has been delayed. Many owners disagreed with the initial offer based on BIR zonal valuation which is much lower than market prices. Some Mayors are helping the owners to obtain even higher prices. If negotiation fails, DPWH would resort to expropriation thru the courts, which is a lengthy process. PIDC offered a revolving fund to fund advances to owners so they will issue the Permits to Enter, which are needed to start construction. Banks require 100 percent completed ROW acquisition before initial loan drawdown.

3.2 RAIL TRANSPORT SUB-SECTOR

The figure below shows the existing and plan railway lines of Metro Manila and its suburbs. As shown in the map below, there have been successful projects carried out through the involvement of the private sector. The succeeding sections discuss in details the private sector's participation in construction and operation of rail transport.

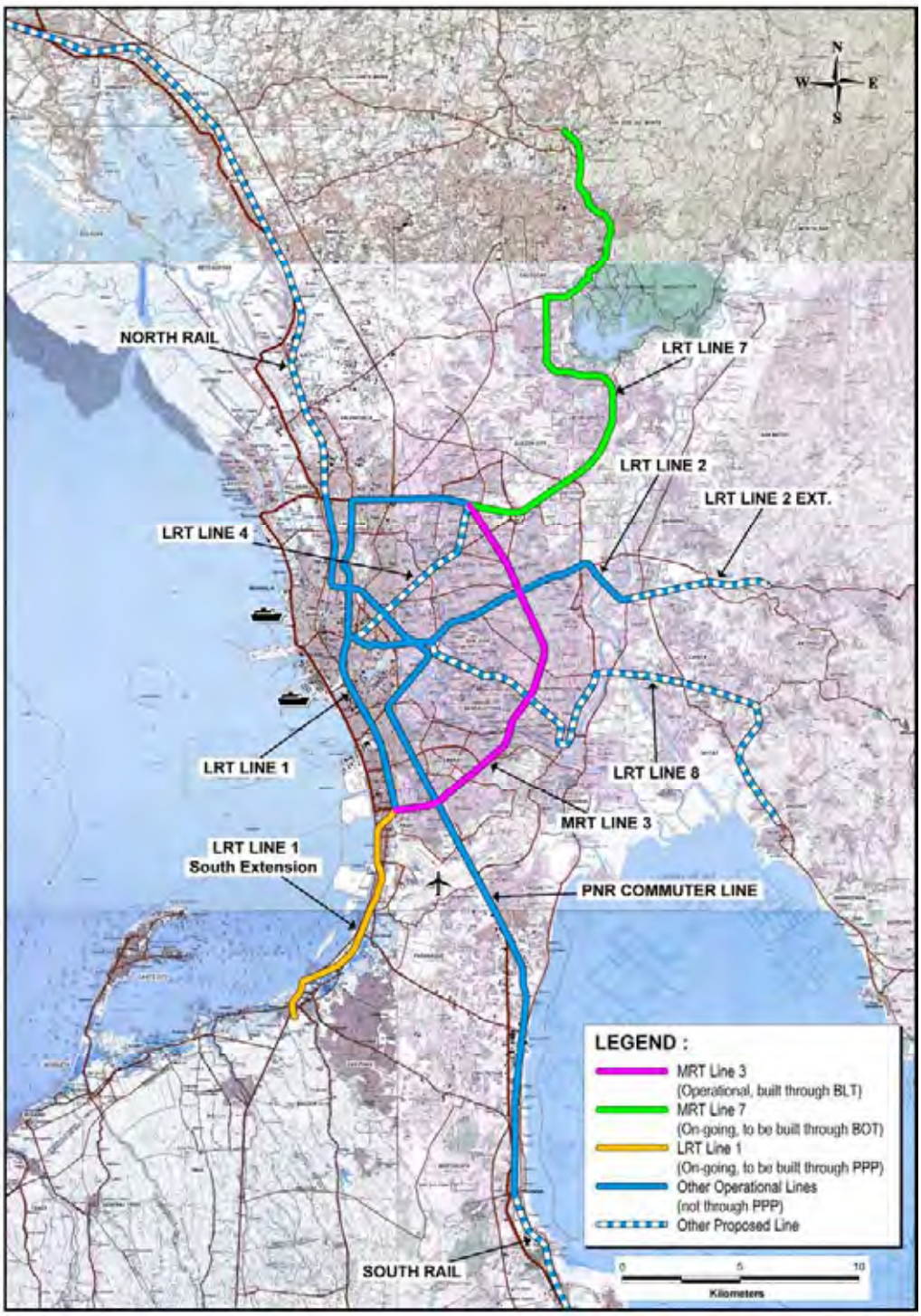


FIGURE 3.2-1 RAIL TRANSPORT MAP OF THE PHILIPPINES

3.2.1 Brief History of PPP Projects

Metro Manila has traditionally been the center of industrial and economic activity of the Philippines. The rapid urbanization of Metro Manila dramatically increased traffic in the central business district and adjoining areas. Before the Metro Rail Transit (MRT) Project, metropolitan commuter transport had been mainly conducted through the heavily and chronically congested roads. A large increase by all modes was expected as a result of optimistic economic activity in the mid-1990s, which in turn caused further transportation and environmental problems. In order to improve the conditions then and to minimize exacerbation of those conditions, the Philippine government looked into taking some measures to increase the capacity of its urban transportation and transit systems.

Epifanio de los Santos Avenue (EDSA) is the busiest transportation corridor in Metro Manila in terms of passenger traffic and commercial activity. EDSA is the backbone of Manila's ground transportation system and one of the highest volume roads in the country.

EDSA extends from the Macarthur Highway at Monumento Circle, Caloocan City, in the north of Metro Manila to Taft Avenue in the south. There are also major centers of commerce and urban activity adjacent to EDSA corridors which include Monumento/Balintawak, North Avenue, Cubao, Ortigas, Shaw, Guadalupe, Makati and Baclaran. Through its 22-kilometer length, EDSA varies, in general, from 5 to 6 lanes wide in each direction. The outer two lanes are designated for exclusive bus use.

As per the master plan for Metro Manila's traffic problem, the completion of the MRT Project will allow the removal of 40% of the aging buses along EDSA and thus improve traffic, lower pollution drastically, as well as other economic benefits.

In connection with the above the Department of Transportation and Communications awarded the first railway BOT project in 1992 to a consortium of international sponsors headed by Mr Eli Levin, who was involved in installing the first light rail transit system in Manila in the mid-1980s. Mr. Levin incorporated EDSA LRT Corporation Ltd. (ELCL) in Hong Kong as the initial contractual counter party to the DOTC.

In June 1995, a newly-formed consortium of reputable Philippine companies purchased a majority stake in ELCL through EDSA LRT Holdings, Inc. (ELHI), a Philippine-registered company. It was also approximately at this same period that the consortium engaged JP Morgan to help organize the financial structure of the Project and its highly complex financing plan.

3.2.2 Past and On-going Railway PPP Projects

3.2.2.1 Metro Rail Transit (MRT) Line 3

The first Public-Private Partnership (PPP) for railway sector in the Philippines is the Metro Rail Transit (MRT) Line 3 along EDSA. The MRT is operated by the Metro Rail Transit Corporation (MRTC), a private company operating in partnership with the Department of Transportation and Communications (DOTC) under a Build-Lease-Transfer (BLT) agreement. The Build-Lease-Transfer (BLT) agreement was signed by DOTC and Metro Rail Transit Corporation (MRTC) on August 8, 1997 and amended on October 16, 1997. It constitutes a restatement of similar agreements dating back to the first such contract, which was signed on November 7, 1991. That agreement was restated on April 22, 1992, and the restated agreement was supplemented on May 6, 1993, and amended on July 28, 1994 and May 1996. Another restatement was signed on October 3, 1996. All the terms in those prior agreements were superseded by the provisions of the BLT Agreement.

Construction started on September 16, 1997 after the MRTC signed an amended agreement with a consortium of companies, which included Mitsubishi Heavy Industries and Sumitomo Corporation, and a local company, EEI Corporation, which was subcontracted for civil works. A separate agreement was signed with ČKD on rolling stock. MRTC also retained the services of ICF Kaiser Engineers and Constructors to provide program management and technical oversight of the services for the design, construction management and commissioning.

On December 15, 1999, the initial section, from North Avenue to Buendia was opened. The full operation was on July 20, 2000 when the last 3 stations (Ayala, Magallanes and Taft) were completed.

3.2.2.2 MRT Line 7

One of the on-going PPP project for railway is the MRT 7. It will be the fourth railway line to be built in Metro Manila. When completed, the line will be 23 km long with 14 stations, and will be operated by the Universal LRT Corporation. The line will run in a northeast direction, passing Quezon City then a part of North Caloocan and ends at San Jose del Monte in Bulacan.

On January 2008, DOTC announced that the ULC proposal emerged as winner and the contract was signed. On May 2009, the NEDA-Investment Coordination Committee (ICC) approved the MRT-7 project.

The ULC is composed of a consortium of the Tranzen Group, EEI Corporation and SM Prime Holdings submitted an unsolicited proposal to the Department of Transportation and Communications in 2002. On June 2007, DOTC presented a Swiss Challenge in which four business firms submitted their counter proposal.

The ULC will operate and manage the system on behalf of the government over 25 years while gradually transferring ownership of the system to government in proportion to payments of annual capacity fees. The construction period is expected to last 3-1/2 years.

Table 3.2.2-1 presents the summary of events from submission of proposal up to Notice of Award. It will take almost 7 years of negotiation before Notice of Award was given.

TABLE 3.2.2-1: MRT 7 SUMMARY OF EVENTS

Date	Activity
27 August 2001	Universal LRT Consortium together with ALSTOM (ULC) submitted to the Department of Transportation and Communications (DOTC) a proposal to undertake the MRT 7 Project under a variant of the Build-Operate-Transfer.
03 July 2003	The DOTC accepted and endorsed the proposal of the ULC to the National Economic and Development Authority (NEDA) for first pass clearance and approval.
26 March 2004	The Investment Coordination Council-Cabinet Committee (ICC-CC) of the NEDA granted the MRT 7 Project its “First Pass Approval”.
10 August 2006	Jonathan Uy attached a certified true copy of the draft Concession Agreement as reviewed by the ICC-Technical Working Group on BOT Contract Review.
25 February 2007 26 February 2007 03 March 2007 05 March 2007	On 25 February 2007, 26 February 2007, 3 March 2007 and 5 March 2007, the publication for the invitation for competitive/comparative proposals for the unsolicited MRT 7 project were made in the Manila Times, Philippine Star and Manila Standard Today;
31 January 2008	Notice of Award

3.2.2.3 LRT Line 1 South Extension Project

Another railway project to be implemented for PPP is the LRT Line 1 South Extension Project. The Extension will start from the existing LRT Line 1 last station at Baclaran and will traverse the cities of Parañaque, Las Piñas and reach the municipality of Bacoor, Cavite. It will be an 11.7 km line of which approximately 10.5km will be elevated and 1.2km will be at-grade. The construction of the Cavite Extension Line is divided into two phases - the first phase shall be from Baclaran to Dr. Santos Avenue (Phase 1A) and the second phase shall be from Dr. Santos Avenue to Niyog Station, Bacoor, Cavite (Phase 1B). The extension will initially include 8 new passenger stations with a provision of 2 additional passenger stations.

The project aims to (a) immediately provide safe, reliable and environment-friendly transportation services in Metro Manila and the suburbs; (b) immediately alleviate the worsening traffic condition in the Paranaque – Las Pinas - Cavite area and (c) catalyze commercial development around the rail stations. **Table 3.2.2-2** shows the summary of events.

TABLE 3.2.2-2: LRT LINE 1 SUMMARY OF EVENTS

Date	Activity
22 June 2009	Following the NEDA decision in its 09 June 2009 Cabinet Group Meeting, LRTA was informed that LRT Line 1 South and LRT Line 2 Extension Projects will be implemented through Public Private Partnership (PPP) scheme and it was noted that the government shall provide 85% guarantee to these projects.
15 December 2009	DOTC endorsed to NEDA the China ODA as a funding source for the construction/implementation of the Line 1 South Extension Project and requested the inclusion of the project to the next ICC meeting.
21 January 2010	DOTC/LRTA submitted documents to comply with NEDA requirements
26 January 2010	During the 44th NEDA Board Meeting it was agreed that the LRTA Board shall open the LRT Line 1 South Extension Project for competitive bidding and to include under the TOR the source of funding, the burden of the national government in the financial charge and the rate by which the passengers will be charged.
03 February 2010	LRTA created a Special Bids and Awards Committee (SBAC) in view of the instructions coming from the NEDA Board for LRTA to open the project for competitive bidding.

3.3 SEA TRANSPORT SUB-SECTOR

Per DOTC Water Transport Division there is no history of PPP project for sea transport sector since the Philippine Ports Authority (PPA) is generally implementing the infrastructure projects for this particular sector.

3.4 AIR TRANSPORT SUB-SECTOR

3.4.1 Brief History of PPP Projects

NAIA is the main international gateway to the Philippines and is located 10 to 15 km from Metro Manila's business center, Makati. NAIA serves about 13 million passengers a year, of which 7 million are international passengers. The proposed project is to construct, operate and maintain the new IPT3 at NAIA. It will accommodate the growing volume of international air traffic to Manila, which has exceeded the current capacity of the airport. The new terminal is being built

adjacent to the existing airport facilities on land within the former Philippine Air Force Base at Villamor. With nearly 200,000 square meter of floor space, IPT3 will handle up to 13 million international passengers a year. A duty free shopping complex is also being constructed as an integral part of the terminal.

The project concept was first developed in a master plan by Aeroports de Paris in 1990 for the Manila International Airport Authority (MIAA), an independent agency under the Department of Transportation and Communications (DOTC) of the Philippines that manages the operations of NAIA. The plan was on hold as the Government assessed the merits of expanding NAIA versus alternatives such as developing a new international airport at the former US military base in Clark, located over 100 kilometers north of Metro Manila. In early 1996, the Government decided to execute the expansion of NAIA.

A consortium known as PIATCO formed by Paircargo (a long time Philippine cargo handler at NAIA), Globe Ground (Lufthansa Airlines' wholly owned ground handling subsidiary), and Security Bank (the 13th largest bank in the Philippines), won the concession to finance, construct, operate and maintain IPT3 on a Build-Operate-Transfer (BOT) basis. The facility is almost completed in 2004, however, the Supreme Court decided that the concession agreement with PIATCO was invalid and PIATCO should not have been prequalified. The facility was compulsory taken over by the Government and is being manage by the Government

3.4.2 Past and On-going Air Transport PPP Projects

3.4.2.1 NAIA-IPT 3

In February 1997, the consortium established the project company, Philippine International Air Terminals Corporation (PIATCO), and in July 1997, the Government, through DOTC/MIAA, and PIATCO entered into a Concession Agreement for the project. During 1999 and 2000, Flughafen Frankfurt Main AG (FAG), owner and operator of Frankfurt airport, acquired shares of PIATCO and became a major sponsor of the project. **Table 3.4.2-1** presents the summary of events.

TABLE 3.4.2-1: NAIA-IPT3 SUMMARY OF EVENTS

Date	Activity
February 2007	A consortium by Paircargo, Globe Ground 7 Security Bank was formed.
July 1997	Government through DOTC/MIAA entered into concession agreement.
June 15, 2000	Start Construction
December 2002	Expected Completion
December 2004	Philippine Government expropriated the terminal project from PIATCO through an order of the Pasay City Regional Trial Court (RTC)
September 2006	The Philippine Government formally paid PIATCO an initial amount of approx. USD64 million
June 19, 2008	Michael Defensor was appointed as NAIA Terminal 3 Task Force Head through Executive Order No. 732.
July 22, 2008	NAIA-IPT3 Partial Operation with Cebu Pacific, PAL Express and Air Philippines moved their operations to IPT-3

3.4.2.2 Caticlan Airport Development Project

San Miguel Corp. has signed a contract to take over the country’s first privatized airport development project, the modernization of the Caticlan Airport, the gateway to the world-famous Boracay Island.

The conglomerate is coming in a the strategic partner of the consortium of businessmen namely: George Yang, Rafael Puno, Lino Barte and RPRP Ventures Management and Development Corporation and they called it the Caticlan International Airport Development Corp. (CIADC).

CIADC holds the exclusive rights, obligations and privileges to finance, design, construct, operate and maintain the Caticlan Airport by virtue of a concession agreement dated June 22, 2009, with the Department of Transportation and Communications and the Civil Aviation Authority.

The modernization of the Caticlan airport alone is worth about P2.5 billion, based on the framework approved by the National Economic and Development Authority. It involves the construction of a bigger airport passenger terminal, extension of the existing runway from 950 meters to 2,100 meters, improvement of the road network and upgrading of airport facilities and air traffic control aids. The proponents have also committed to build other support utilities, install fire-fighting equipment, and construct a diversion road.

The project is based on a build-rehabilitate-operate-transfer agreement. CIADC has up to seven years to build and expand the airport and 25 years to operate the facilities. All revenues will go to CIADC except for earnings from the operation and maintenance of navigation systems, which will go to the DOTC. The table shows the summary of events of the said airport.

TABLE 3.4.2-2: CATICLAN AIRPORT DEVELOPMENT'S SUMMARY OF EVENTS

Date	Activity
June 22, 2009	Concession of Agreement was signed between CIADC and DOTC/CAAP.
15 January 2010	Project launching/capsule laying with Her Excellency President Gloria Macapagal Arroyo as the guest of honor.
March 2010	The management and supervision of the project was transferred to Civil Aviation Authority of the Philippines (CAAP)

3.4.2.3 Diosdado Macapagal International Airport (DMIA) Development Project

A Kuwaiti firm has offered a proposal to the Clark International Airport Corporation (CIAC) to develop the Diosdado Macapagal International Airport (DMIA) Terminal 2 project worth $1.2 billion including other components at the 2,367 hectare Clark Civil Aviation Complex .

Under the Joint Venture Selection Committee (JVSC) rules and regulations, the Kuwaiti proposal will undergo a Competitive Challenge through a publication to various news dailies to allow other Prospective Private Sector Participants (PSP) to give a better proposal for the development of the DMIA Terminal 2. On December 24, 2009 ALMAL Investment Company sent a letter of proposal signifying their interests to develop the DMIA Terminal 2 as well as the 1,500 hectares adjacent land of the Clark Civil Aviation Complex in Clark Freeport Zone in the province of Pampanga.

Under the joint venture, CIAC will have a share of 30 percent while ALMAL will have a 70 percent share in the project. The duration of the joint venture is about 45 years and renewable for 25 years subject to the mutual agreement of both parties and the limitations imposed by the laws, rules and regulations of the Philippines. The components of the project includes the developments of an Airport equipment for DMIA Terminal 2; Airport Plaza; Transport Plaza; Covered Parking Area ; Expansion of existing Apron Facilities; Widening of access roads with interchanges; demolition of some existing buildings; develop a new identity and signature and site utilities development. Table below shows the summary of events.

TABLE 3.4.2-3: DMIA SUMMARY OF EVENTS

Date	Activity
04 May 2009	ALMAL Consortium, a subsidiary of Kuwait's Al Kharafi Group, submitted CIAC an unsolicited proposal for the development of DMIA Terminal 2 Project. CIAC decided to accept the proposal for Detailed Negotiation
26 October 2009	ALMAL indicated in its letter that they have reverted back to their original proposal dated 28 June 2009. This, in effect, invalidates all previous negotiations made from 28 June - 26 October 2009. CIAC Board agreed to write a letter to the President for updates and seek guidance on the courses of action to be taken.
04 December 2009	ALMAL submitted a letter to CIAC containing the revised TOA.
31 December 2009	Date of deadline CIAC Board gave to ALMAL to agree and sign the TOA as contained in the Certificate of Successful Negotiations.
11 January 2011	OGCC submitted their review and comments for consideration and guidance of the CIAC Board
17 February 2011	CIAC prepared the revised TOA and gave one (1) week, from the date of acceptance, for ALMAL to agree and sign the TOA.

3.5 LESSONS FROM OTHER COUNTRIES

3.5.1 Malaysia

3.5.1.2 Brief History of Expressways in Malaysia

High economic growth since the 1970s resulted in a massive expansion of the national road transport network in Malaysia. The length of federal and state roads increased from 16,422 km in 1970 to 120,622 km in 2007 of which 70% were paved roads. It is estimated that the over 90% of all passengers and goods in the country are currently carried by road alone. See Annex 3.5-1 for the full report.

The total expressway mileage in operation is 1,890 km comprising mainly of interurban expressways, which are all tolled. The map below shows the overall expressway network in Malaysia.

Source: Malaysian Highway Authority

FIGURE 3.5.1-1 OVERALL EXPRESSWAY MAP OF MALAYSIA

Increased congestion as a result of high population growth and vehicle ownership rates in and around Kuala Lumpur saw the opening of several more expressways in the Klang Valley region during the 1990's. The New Klang Valley Expressway (NKVE) which was completed in 1990 to relieve traffic on the Federal Highway 2 was among the first of intra-urban expressways to be built in the Klang Valley after Federal Route 2. The following figures show the location of Federal Route 1 and 2 as well as NKVE.

FIGURE 3.5.1-2 NORTH-SOUTH EXPRESSWAY (FEDERAL ROUTE 1) AND EAST COST EXPRESSWAY (FEDERAL ROUTE 2)

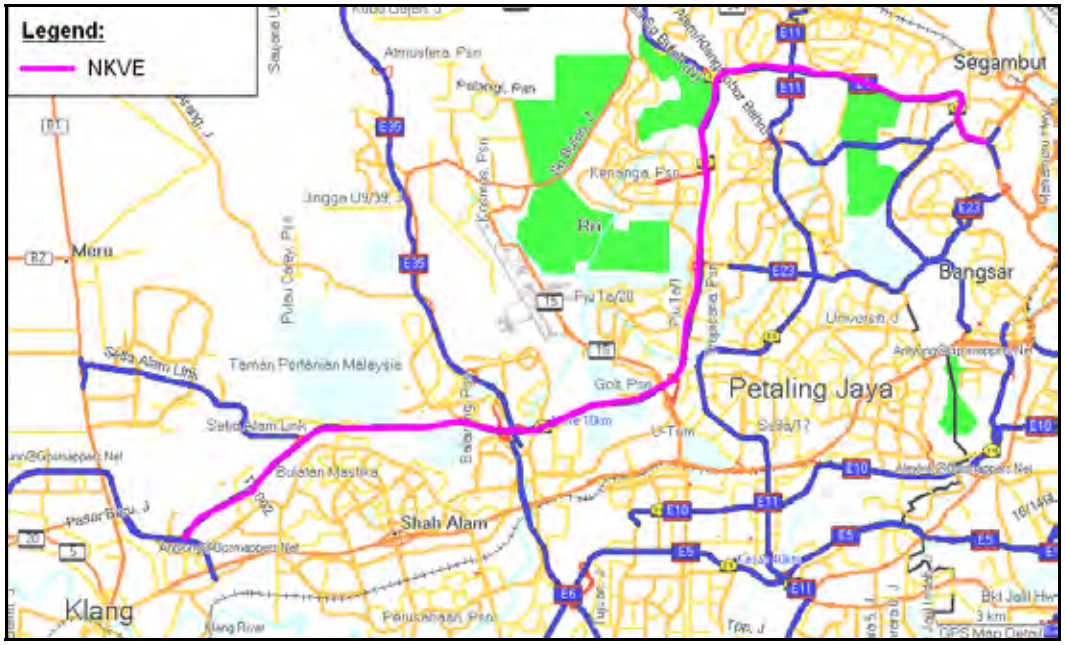


FIGURE 3.5.1-3 NEW KLANG VALLEY EXPRESSWAY (NKVE)

3.5.1.3 Expressway Standards and Specifications

Expressways in Malaysia are typically dual carriageways with a minimum of 2 lanes per direction. Design speed is usually 120km/h for intercity routes with speed limits of 110km/h. Speed limits are generally lower in urban areas where speed limits range between 80-90km/h. According to the guide on geometric designs of roads in Malaysia (Public Works Department, Malaysia), the maximum design speeds will depend on the location of highway and the type of access control where roads standard for highways and expressways are expressed as U5 & U6 (urban) and R5 & R6 (rural).

Both open and closed tolling systems are in operation in Malaysia (where a closed system refers to a road where a motorist obtains a ticket upon entering the toll road, then pays a toll upon exiting the expressway). The North South Expressway uses a closed-toll system.

In contrast, a toll road using an 'open system' consists of mainline toll plazas (or toll barriers) at set intervals where it is possible for motorists to get on an 'open toll road' after one toll barrier and exit before the next one, thus travelling on the toll road toll-free. Most toll expressways in the Klang Valley operate on this principle. Most of the open expressways are located in urban areas like the Klang Valley where space is constrained for plazas and often there are numerous access points to the highway which are hard to control. This is the reason why expressways in Malaysia mostly adopt the open system.

3.5.1.4 Role of Expressways in Malaysia

Because of the importance of infrastructure for economic development and for alleviating poverty, the Government of Malaysia continues to give high priority to transport infrastructure development. The opening of the North South Expressway reduced inter-city travel times by half while urban areas in the Klang Valley are highly accessible and interconnected by tolled expressways that often provide an alternative to congested arterials in the city.

The level of new expressways expected to be implemented has reduced from a peak in the 1990's however in the pipeline there are several proposed expressways including the East Coast Expressway (ECE) and West Coast Expressway (WCE). The ECE which links Kuantan to Kota Bharu is currently under construction while a southern extension from Kuantan to Johor Bahru is planned.

3.5.1.5 Toll Road Delivery Model

To date, toll highways in Malaysia have generally been implemented under the same basic model – a Build-Operate-Transfer (BOT) in which the private sector carries responsibility for Detailed Design, Construction, Maintenance and Operations (including toll collection).

In all cases, concessionaires carry traffic and revenue risk – though in some early concessions risk guarantees were provided and later concessions provide for revenue sharing with Government. Government support typically comes in the form of taking land costs and loans available to the concessionaire. The delivery model is considered in further detail in the sections below.

Legal Foundation

Malaysia has created an institutional and legal framework supportive of toll road PPPs. The primary law for toll road PPPs is the Federal Roads (Private Management) Act of 1984 which permits private companies to collect and retain tolls on federal roads. This law is administered by the Prime Minister's Economic Planning Unit (EPU) and its Privatisation Committee.

There is no BOT Law providing for the legislative basis for the system, and the above act provides much latitude to the EPU in its implementation. The Malaysian Highway Authority (MHA/LLM) was set up to be the monitoring and regulatory body of all toll roads in Malaysia.

PPP Contract

A "PPP" contract or concession agreement is executed between government and the private sector. A typical form of contract between government and the concession company is subject to the provisions of the Federal Roads (Private Management) Act 1984**.**

There has been discussion in Malaysia on the merits of introducing more sophisticated concession models relating to the mode of payment in particular - such as alternative PFI models which relate payments to "asset availability" or other service KPIs (Key Performance Indicators). To date however the basic BOT form of contract remains in which collected toll and other ancillary revenues for the concessionaire income.

Typically the private sector project party is a Special Purpose Vehicle (SPV) set up specifically for the project.

Construction (EPC) Contract

Under the construction contract the SPV transfers obligations relating to the construction phase to a main Engineering, Procurement & Commissioning (EPC) contractor (usually linked to the SPV). There would typically be a number of further construction subcontractors falling under the main EPC contractor.

Maintenance Contract

Again under a facilities management contract construction contract the SPV transfers service obligations to a facilities management contractor which typically includes cleaning and other scheduled maintenance services. The contract may include service KPIs with potential penalties for failure to meet required performance levels.

Shareholder Agreement

Typically the SPV is a small project company set up for the specific concession. Generally one of the major Malaysian contractors (in particular Gamuda, UEM, IJM or MTD) is a major shareholder of the toll road SPV and is the source of the majority of project equity.

Loan Agreement

Project financing is generally sourced locally from one of the major national banks. Banks will typically carry out due diligence of the project before entering into loan deals. In the past the level of due diligence has probably not been consistent with the level of risk associated with the project – and in particular traffic risk has been inadequately appraised. Awareness of such risks is now more developed however – particularly after the experience of the majority of toll roads failing to meet traffic forecasts.

Almost all loan agreements are effectively guaranteed by the government as if the toll concessionaire defaults on loans from the private sector, the government will assume the liabilities. The project sponsors also need to satisfy the government in terms of background and track record, financial strength and commitment. The commitment could come in the form of: undertaking to

subscribe loan stocks issued by the project, and undertaking to cover any shortfall to fulfil profit payments due within the delayed period.

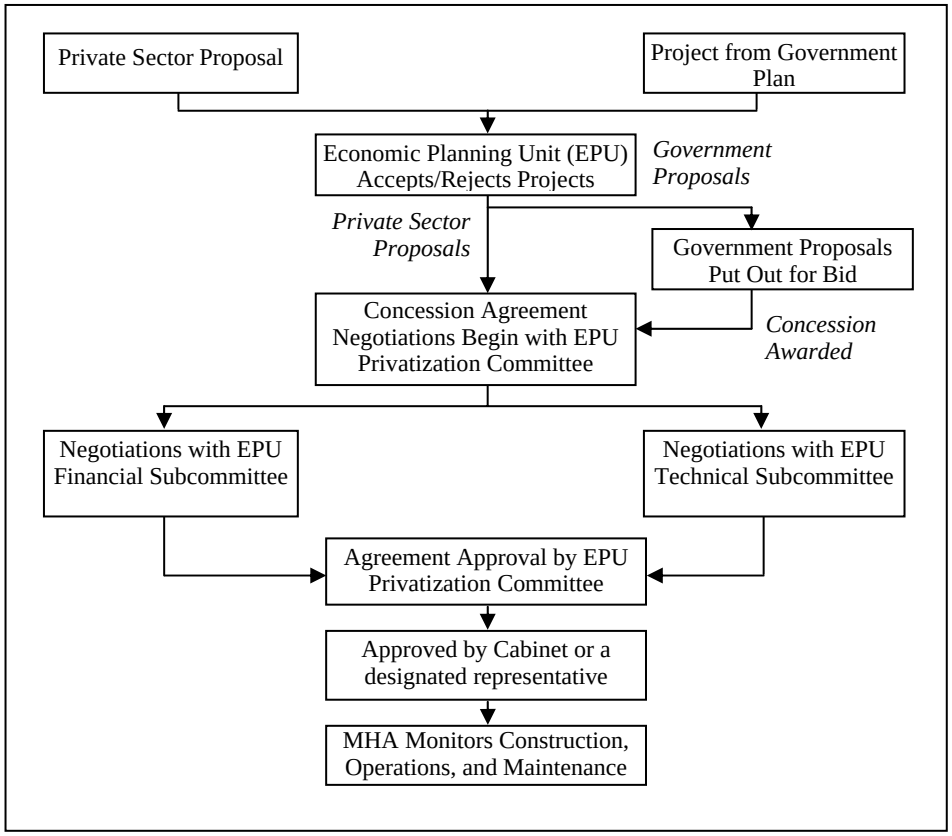
Typical PPP/BOT Award Process

The majority of concessions awarded have been through direct approach from the private sector proponent to government with the contract awarded on a direct negotiated basis. Although most projects are generally awarded via unsolicited approach, there is a move by the government towards open tendering for major contracts. This approach is being considered for a current major metro proposal in the Klang Valley. The PPP project development process is shown in **Figure 3.5.1-4**.

To date, a number of Letter of Intent (LOI) or concessions have been signed but projects have not been implemented due to funding issues. The raising of project financing has generally been the key issue behind project implementation.

There are very limited examples of open bidding for concessions. One example however is the Shah Alam Expressway project (1991) – since the concept was developed by JBIC and therefore subject to considerable preparation and development criteria.

The typical duration of a PPP/BOT project which depends on process and timing may be 3 months for submission of proposal and award of LOI and 6 months for a feasibility / privatisation study and contract.



Source: Ward and Sussman (2006), Malaysian Toll Road Public-Private Partnership Program

FIGURE 3.5.1-4 MALAYSIAN'S PPP PROJECT DEVELOPMENT PROCESS

3.5.1.6 Key Stakeholders

Public Sector

Several government agencies and ministries form the main public sector stakeholders in the development of public-private partnerships for the development of toll expressways in Malaysia. The key public sector stakeholders include:

1. Economic Planning Unit (EPU) – Prime Minister's Office
2. Highway Planning Unit (HPU) – Ministry of Works
3. Malaysian Highway Authority (MHA)) – Ministry of Works
4. State Governments/ Local Authorities

The key role of the EPU is to formulate national policies and strategies for socio-economic development plans in the medium to long term planning as well as the budgeting, monitoring and evaluation of the planning achievements. The EPU also functions as an economic advisory to the government while initiating and undertaking necessary economic research. EPU usually plays a key role in the project planning and approvals stage.

A new unit within EPU namely 3PU, was created on 22nd April 2009 under the management of the Director General. The unit was created due to a perceived increasing need for closer public-private relationship in developing the economy. 3PU consists of 7 divisions: Corporate Services, PFI, Privatisation, Energy, Corridor Development, Legal Advisory and Project, Monitoring and Communication. The unit is expected to act as a central agency for planning and processing privatisation and PPP programs in Malaysia.

Expressways in Malaysia (roads that fall under JKR standards R6 and U6) are administered by the Malaysian Highway Authority which functions as an implementing and coordinating government agency under the Ministry of Works. Its key roles include supervising and implementing the design, construction and maintenance of highways (and highway facilities) identified for implementation by the government. State governments and local authorities are responsible for formulating state development strategies and coordinating the preparation of state development program and projects.

Private Sector

Despite the large number of concessions the toll expressway market in Malaysia is dominated by a relatively small number of major players as shown in the table.

TABLE 3.5.1.6-1 MAJOR PLAYERS IN EXPRESSWAY IN MALAYSIA

Major Player	Projects
UEM Group Berhad	Plus Expressway Bhd. • North South Expressway • NKVE • Seremban - Port Dickson Highway
	Penang Bridge Sdn. Bhd. • Penang Bridge
	Linkedua (M) Sdn. Bhd.. • Malaysia-Singapore Second Crossing Expressway
	Kulim Sdn Bhd • Butterworth-Kulim Expressway
	Expressways concessions in Indonesia and India

Major Player	Projects
MTD Group Berhad	MTD Prime Sdn Bhd • Kuala Lumpur – Karak Highway • East Coast Expressway
	Expressways concessions in the Philippines, China and Indonesia
GAMUDA Berhad	Sistem Penyuraian Trafik KL Barat Sdn. Bhd. (SPRINT) • SPRINT Highway
	Konsortium Expressway Shah Alam Selangor Sdn. Bhd. • Shah Alam Expressway
	Lingkaran Transkota Holdings Bhd. (LITRAK) • Damansara Puchong Expressway
	Syarikat Mengurus Air Banjir & Terowong Sdn. Bhd. • SMART Tunnel Expressway
IJM Corporation Berhad	New Pantai Expressway Sdn. Bhd. • New Pantai Expressway
	Besraya (M) Sdn. Bhd. • Sungai Besi Highway
	Lebuhraya Kajang - Seremban Sdn. Bhd. • Kajang – Seremban Highway
	Expressways concessions in India and Argentina

3.5.1.7 Concession Agreement Review

The basic structure of the toll road concession agreement in Malaysia has not significantly changed over time. What has developed is the level of detail and sophistication of various clauses of the agreement as experience has been gained. The initial concession agreements were very simple. For instance the first concession agreement signed with Shapadu Properties in 1984 was only around 16 pages long including appendices. The more recent SMART concession (2004) was well over 100 pages long. Still, the Malaysian form of concession agreement remains relatively simple, certainly in comparison to the western (European) form of concession agreements.

The spirit of the Malaysian concession agreement and approach to BOT has always been heavily reliant on partnership and trust between the parties – a spirit close to that of the European PPP model, if less formalised. A lack of attention to detail and due diligence has led to questionable value for money on some projects in Malaysia. However, as a whole, the programme has led to impressive delivery of a high quality expressway network which has certainly benefited the Malaysian economy and an extremely capable construction industry, which is now active around the region.

Concession Period

There is variation in the concession period of the toll road concessions in Malaysia though the typical period is 30-33 years.

Land Acquisition

Typically the main risks and costs associated with land have been allocated to the government. The government usually grants exclusive right and license for the concessionaire to enter and occupy all land required in relation to the concession and is made available to the concession period free of charge. In addition, the government is obliged to make available the land typically not later than 3 months prior to the scheduled date of commencement of the construction works.

Other factors relating to land development:

- No clauses relating to risk allocation in case of contaminated land or presence of material that requires expensive excavation,
- Concessionaires are compensated for late release of land,
- Land Act allows for two-stage approach to land acquisition, Stage 1 to enable surveyors to enter land, Stage 2 to complete the acquisition of parcels,
- Current clauses require concessionaire to carry out public consultation through survey consultants, but method of selection of respondents is unknown,
- Land is guaranteed free of squatters' rights although in some cases the government has required concessionaire to construct low cost units for squatters on land provided through government concessions.

Design

The concessionaire is responsible for the design stage of the project and is obliged to produce a detailed design which meets an outline design or at least project specification prepared by the public sector. Typically the concession company will first submit a design brief to MHA for approval (expected within up to 4 weeks). The detailed design is then undertaken by a Malaysian qualified consulting engineering firm at the cost of the concessionaire. This detailed design is also subject to approval by MHA (typically within 6 weeks).

Construction Management and Monitoring

Generally, the concessionaire is obliged to appoint and pay for one or more Malaysian consulting engineering firm to supervise the construction works to ensure these works are being carried out in accordance with the approved design and relevant statutory requirements.

Operation and Maintenance

The concessionaire is generally obliged to carry out all routine and heavy maintenance. After the very first concessions, the concessionaire is generally obliged to produce a maintenance manual for approval of MHA which specifies the planned maintenance and required standards for road condition and so on. Where the government believes performance standards are not being met a notice will be issued to the concessionaire who must respond within 4 weeks. Typically the concessionaire will have to raise a maintenance bond.

Tolling

As discussed all of the concessions involve the concessionaire collecting tolls as the main source of revenue. In the first concession (Shapadu) there were only two tollable toll classes, basically cars and trucks. Buses were not tolled nor motorcycles. In reality the government sets the toll rate in Malaysia. Frequently even the opening year toll has not been set at the concession rate. Potential toll increases are highly political and generally the toll roads operate well below their concession rates and with fewer toll increments occurring than was initially contracted. The concessionaires are protected through "toll compensation" clauses. Under the toll compensation clauses the concessionaires are basically compensated directly for the loss in revenue due to being unable to implement the contracted toll rate.

Recent concessions have included revenue sharing clauses. Revenue sharing was introduced for instance in the first PLUS supplementary concession agreement. The basis for the revenue sharing is simple. Where toll revenue is above the agreed base projection the excess revenue will be shared based on defined split. These splits do vary by concession. In reality however, revenue sharing has

not generally been activated since most forecasts for Malaysian toll roads have not been achieved. One notable exception is the Penang Bridge concession which paid revenue sharing payments to government on an annual basis.

Government Support

There are various mechanisms for government support on toll roads concessions in Malaysia.

- As discussed generally land costs are generally fully borne by government,
- In some concessions support loans have been made available,
- Rights to land development have also been featured in concession negotiations,
- Compensation in the event toll rates revision does not materialise or below the projected toll rates and sharing of excess toll revenue,
- Support Traffic Volume (STV) – is minimum traffic growth guaranteed by the Government. If the actual traffic volume falls below STV, the concessionaire will be compensated; in return, the concessionaire will share an agreed percentage of the excess if the actual traffic volume exceeded an agreed growth rate (the first threshold toll income),
- Grace period - The normal repayment period is 25-30 years and it only starts after meeting the condition precedent like all land acquisition completed, all construction completed, all equipment installed etc.

The identified potential modes of assistance from the fund to date include:

- Support through provision of Assets (e.g. mortgage of land for commercial development along corridor),
- Off-take agreement - An agreement between a producer of a resource and a buyer of a resource to purchase/sell portions of the producer's future production. An off-take agreement is normally negotiated prior to the construction of a facility such as traffic projection in order to secure a market for the future output of the facility. If lenders can see the company will have a purchaser of its production, it makes it easier to obtain financing to construct a facility,
- Support in the development of infrastructure (e.g. provision of access roads to major ports and/or airports).

Disputes

Despite the number of concessions in place the number of disputes has been minor. As envisaged, differences have generally been resolved through negotiation and compromise, the Ministry for Works being the first point of call in any disputes.

Handover

There are clauses in the concession relating to handover which indicate that in general agreement shall be reached on the extent of defects and their repair. There is however no clause that specifies the residual life in any concession asset that shall exist at handover and the method by which this shall be determined.

Funding

Funding is arranged by the private sector project sponsor and typically has consisted of a debt: equity ratio of 4:1. All debt tends to be domestic. The banks, in practice, take limited risk since the government guarantees the loans through the concession agreements. Thus in reality it is the

government that takes the majority of the risk and historically therefore there has been limited emphasis on due-diligence work before banks and project sponsors decide to invest.

3.5.1.8 Key Success Factor

By far the most significant project risk (and hence success factor) to date for Malaysian toll road concessions has been the level of traffic and revenue on the highway – opening year and then growth rate thereafter.

Most concessions are led by contractors who have good understanding of construction costs and risks. Operation and maintenance costs are also fairly predictable and can be to a degree controlled. Traffic and revenue is both highly uncertain and also almost entirely outside of the control of the concessionaire.

As such the main shortcoming of the Malaysian toll road model is that the key commercial success factor of the project is outside of the control of the concessionaire. Mechanisms have been explored by the Malaysian Highway Authority which would introduce penalty/bonus payments based on actual performance of the concessionaire against KPIs such as level of maintenance, lane availability or accident response. However to date such mechanisms have not been fully implemented.

Generally revenue forecasts have not been achieved (with a few notable exceptions). At a general level the two most prominent reasons for traffic and revenue falling short are identified as follows:

- Land Development. Probably the most common reason for traffic projections not being attained in Malaysia relates to the level of land development assumed.

- Toll Road Attractiveness. Scheme proponents have often overestimated the attractiveness of the proposed project. Many of the toll roads in operation are within the Klang Valley urban conurbation where there is significant route choice;

3.5.1.9 Case Study 1 – Penang Bridge

The Penang Bridge is currently the only land transport linking the Penang Island to the mainland of the Peninsular. It is a tolled, 13.5 km long bridge (shore to shore distance being 8.5km). The bridge was opened in 1985, prior to which travellers relied on the ferry service which remains until today. The bridge was built, tolled and operated by the government from 1985 to 1993 until a concession was awarded to a private enterprise, Mekar Idaman Sdn Bhd (novated to Penang Bridge Sdn Bhd) for a payment to government of RM550,000,000.

The 25-year concession involves the operation and maintenance and financing of this dual-2 25 years old bridge, no longer capable of accommodating the present volume of traffic of more than 120,000 vehicles per day. The bridge has undergone extra lane widening to dual-3 in 2009 at concession's expense and as a result the concession period was extended to December 2021, effectively an extension of 3 years and 7 months.

FIGURE 3.5.1.9-1 PENANG BRIDGE

Concessionaire	:	Penang Bridge Sdn. Bhd.
Total Length	:	13.5 km
Construction Period	:	1982-1987
Official Opening Date	:	30 September 1987
No. of Toll Plazas	:	1
No. of Interchanges	:	2

Type of Government Subsidy

- Land – Government grants to the concession company an exclusive licence to enter upon and to occupy the land comprised in the concession areas.
- Upfront subsidy for construction – the difference between Project Cost and Concession Consideration.
- Loan facility provision to the concession company of an amount of RM183 million for the purpose of carrying out the lane widening work.
- Compensation for toll hike impedance- should agreed toll increment as stipulated in concession agreement is not achieved due to the objection from the government, the government shall compensate concession company for any reduction in toll received

Sharing of Toll Revenue

Government is entitled to 50% of the amount by which Actual Gross Toll Revenue for any concession year exceeds the Threshold Toll Amount for that concession year. Threshold is the amount equal to 10% above the Specified (forecasted) Gross Toll Revenue. Traffic on Penang Bridge has consistently outperformed the original concession forecasts resulting in annual revenue sharing payments to Government.

Key success factors (Concessionaire)

- The bridge had already been built by the government – the only real risk for the project was on traffic and revenue;
- The bridge had already been open for eight years – hence "opening" year revenue carried far less risk than a new-build project.
- The traffic and revenue forecasts relied upon within the financing model appeared to have been conservative. Actual traffic was ahead of forecast even in the first year. This gap grew year on year.
- Strong monitoring of operational performance and traffic management measures to try to ensure reasonable flow of traffic on the bridge;
- Annual traffic and revenue updates to ensure revenue risks are assessed and managed;
- Limited competition – only the Penang Ferry which has low capacity and longer journey time.

Key success factors (Government)

- Revenue sharing mechanism ensured that government received part of the "excess profits" resulting from the higher traffic levels than were assumed in the concession agreement and funding model.

3.5.1.10 Case Study 2: North South Expressway (PLUS)

In 1988 a concession agreement was signed between the Malaysian Government and United Engineers (Malaysia) Berhad. This was later novated (with the approval of the Malaysian Government) to Projek Lebuhraya Utara-Selatan (PLUS) covering a 30-year period. The PLUS Expressway comprises: North-South Expressway (NSE) 772km; New Klang Valley Expressway (NKVE) 35km; Federal Highway Route 2 between Subang and Klang 16km; Johor Causeway 1km.

The project forms the spine of the country's road network and had a fundamental impact on the economy and fabric of Malaysia. It connects all of the major west coast conurbations from the border with Singapore to the south to Thailand in the north. In addition to construction of 462km of the NSE and the NKVE several existing road sections were taken over by the concession company as part of the concession including: Bukit Kayu Hitam-Jitra, 24km; Alor Setar-Gurun, 35.6km Changkat Jering-Ipoh, 53.9km; KL-Seremban, 51km; Seremban-Ayer Keroh, 66km.

The concession also included improvement (road widening) works on Federal Route 2 in the Klang Valley (16km) with handover of the road (and two closed two plazas) to the concession on completion of the works. Two other sections of the NSE: Jitra-Alor Setar and Ayer Keroh-Pagoh were under construction in parallel and were taken over by the concession company upon completion. In 1999 the Government agreed to extend the concession period by twelve years to 31 May 2030. It was later extended to 2038 (a total of 50-years).

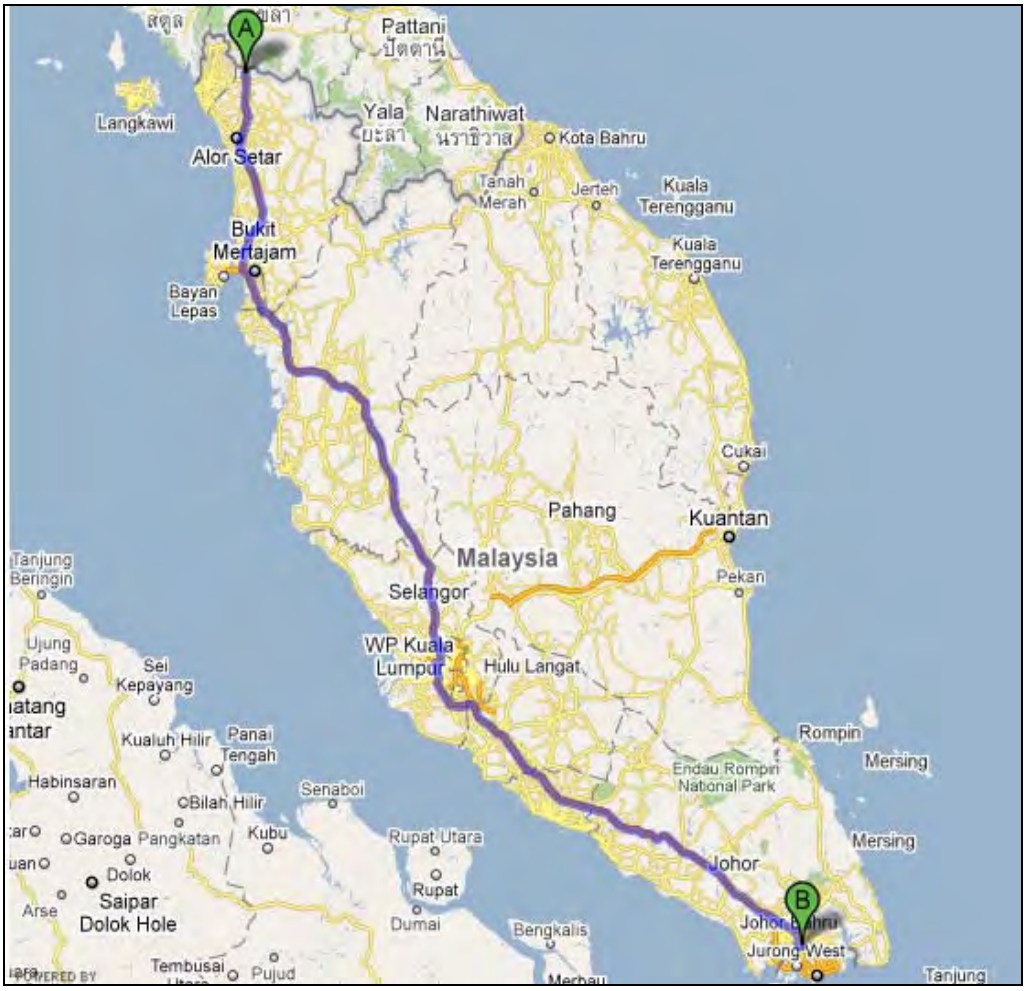


FIGURE 3.5.1.10-1 NORTH SOUTH EXPRESSWAY

Concessionaire	:	Projek Lebuhraya Utara-Selatan Berhad (PLUS).
Total Length	:	772 KM (PLUS) / 848.47KM (MHA)
Construction Period	:	1982-1988 by the Malaysian Highway Authority / 1988–1994 by Projek Lebuhraya Utara-Selatan Berhad (15months ahead of schedule)
Official Opening Date	:	8 September 1994
No. of Toll Plazas	:	62 (closed Toll plaza), 6 (open Toll plaza)
No. of Interchanges	:	75

Type of Government Subsidy

- Land – Paid by the government, all costs and expenses incurred in making available the land comprised in the concession area,
- Support loan of RM1,650 million –The rate of interest is 8.0-8.5% per annum.
- Additional Support Loan – an additional support loan of RM212 million
- Toll Revenue Sharing – if the actual toll revenue exceeds the threshold toll revenue, with the percentage of Government's entitlement 1998-2008: (20%); 2009-20 (25%); 2021-30 (30%).
- Traffic Volume Guarantee – A guarantee in the form of a loan when actual traffic volume is lower than forecasted traffic volume for the first 17 concession years. This guarantee has not been activated to date, as traffic volume recorded has always surpassed the guaranteed level.

- External risk supplement – This guarantee is in the form of a loan if the concession company is unable to meet its obligation as a result of adverse exchange rate or interest rate movements during the first 17 concession years. This guarantee has not been practiced since all loans were raised locally.

Key success factors (Concessionaire)

- Handover of existing assets for tolling enabled early collection of revenue which together with other strong support from Government made the project viable.
- Realistic traffic and revenue projections.
- Good management of construction, operations and maintenance

Key success factors (Government)

- Support of a new innovative financing structure enabled delivery of a major piece of infrastructure which would probably not have been achievable (certainly in a comparable timeframe) under previous procurement options. New innovative financing structure means handover of existing assets for tolling and support loan by the government.
- The project was the right project and was implemented at a good time. The expressway has provided great benefit for the nation by significantly reducing travel times between the key urban centres on the western side of Peninsula Malaysia and its completion coincided with a period of strong economic growth for the country.

3.5.1.11 Case Study 3: Butterworth-Kulim Expressway

The BKE has been in operation since 1996. It is a 4-lane expressway standard dual-carriageway highway, 16.8km in length which comprises 5 interchanges and two (open) toll plazas. Its role is to connect Kulim, an industrial township to Butterworth (port). Presently there is a lower hierarchy and non-tolled state road running parallel to it. The scheme was initiated by a private company (contractor) and subsequently the concession was awarded in June 1994 by the government. The funding was mostly through a commercial loan of RM236.6 million for a period of 10 years. However land was paid by the government.

In 2007, the concession company was running into financial problem and no longer be able to serve the loan. Consequently, under the government's instruction the concession changed hand to PLUS Expressway Berhad and followed by an agreed supplementary agreement in June 2007.

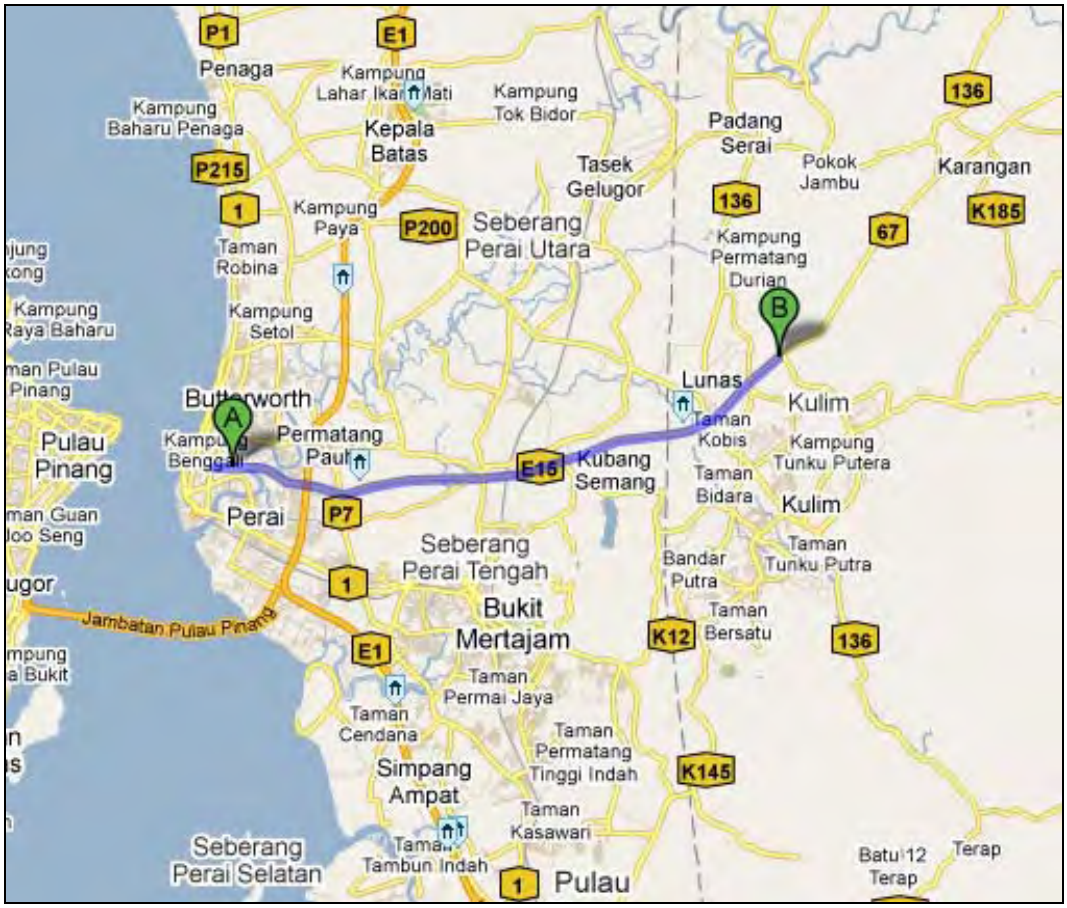


FIGURE 3.5.1.11-1 BUTTERWORTH-KULIM EXPRESSWAY

Concessionaire	:	Konsortium Lebuhraya Butterworth-Kulim Sdn Bhd (KLBK)
Total Length	:	17 kms
Construction Period	:	1994-1996
Official Opening Date	:	15 November 1996
No. of Toll Plazas	:	2
No. of Interchanges	:	5

Type of Government of subsidy

- Land – Paid by Government, all costs and expenses incurred in making available the land comprised in the concession area,
- Unrelated construction contract – Government awarded a construction contract to the concession company to construct a 6-lane dual carriageway outside the concession area,
- Compensation for toll hike impedance-should agreed toll increment as stipulated in concession agreement is not achieved due to the objection from the government.
- Compensation for other affected elements:

(i) Access Road – Shall Government allow access road connection to the expressway that shall adversely affect the flow of traffic on the expressway, and the toll revenue of the concession company, the government shall ensure that the concession company is adequately compensated;

(ii) New Roads/alternative roads and upgrading on the existing alternative road – right is approved to re-examined obligations and rights granted under agreement.

Actual achieved traffic volume is about 40% of forecasted traffic. *Key failing factors* are as follows:

- Week institutional capacity and PPP strategy – original concession company was a construction company and the scheme was initiated by the concession company;
- Unrealistic revenue estimates – actual attainment of traffic is only about 40% of forecast traffic volume – the key factor in the shortfall is believed to be due to ambitious assumptions regarding land development and in particular the development of an industrial park in Kulim

3.5.1.12 Problems / Issues Encountered

The following were the major problems / issues encountered by the PPP Toll Roads in Malaysia:

- Low level of traffic and revenue as compared with the projection during project preparation. This is mainly due to overestimated attractiveness of the proposed project and overly optimistic projection on the scale and rate of land development along the corridor.
- There is no legal requirement for unsolicited proposal that a tender exercise be held for the award of a toll road concession in Malaysia. Although there is a considerable discussion in Malaysia on the merits and needs for transparent tender processes to ensure value for money however to date the concessions continue to be awarded directly.
- Although private sector's know-how brings considerable benefits on the development of toll roads, this also poses a problem of developing an orderly toll road network. The WB Study (1999) reveals that very little advance planning and coordination is undertaken by government agencies in order to coordinate proposals and work towards development of an expressway system.

3.5.1.13 Key Lessons

The positive key lessons from the experience in the Malaysian toll road sector include:

- Allowing a strong private sector to initiate and lead the development of projects has certainly led to an impressive scale of development, as well as a high level of capacity in the Malaysian toll road industry.
- A spirit of partnership between concessionaires and Government has allowed progress to be made – there have been no major disputes and the government is open to renegotiations when conditions adversely change.
- Malaysia has demonstrated that there are several combinations of schemes to ensure success of toll road projects. The government has used monetary repayments, soft loans, concession periods extensions as forms of compensation. At times, even land grants (for real estate development) and repayment guarantees if concession is terminated were offered.
- Clearly delineated roles for EPU and MHA in running the bid and supervising PPPs implementation leads to swift realization of projects.

The following are reported weaknesses of the Malaysian PPP Toll Road:

- A need for a strong government role in PPP toll road projects. In particular the need for consistent and enforced planning; economic appraisal to assess scheme worthiness and careful review of viability and appropriate funding options.
- A need for strong due diligence in particular for traffic and revenue forecasting. Realism required in traffic forecasting – in particular with respect to land development.
- Questions have been raised regarding the value for money of certain projects. As such there is a need for transparent tendering and evaluation procedures to ensure value for money.
- A need to vigorous public information campaign to inform travellers what their tolls pay for. The public may show understanding if they view them as improving their level of service. There are several instances where toll increases were deferred due to public criticism.

3.5.2 Thailand

Various initiatives have been promoted to encourage PPP type investment in the toll road sector in Thailand - but with limited success to date. In the 1970s, a concept of toll road was introduced by the Department of Highways on a new ordinary highway constructed by World Bank loan on highway route no. 32. The toll was collected on highway route no. 32 until 1994 when the government established a policy to not permit tolling on ordinary highways. See Annex 3.5-1 for the full report.

Since then, planning for toll expressways has focused on Bangkok. In 1982, the Expressway and Rapid Transit Authority of Thailand (ETA) under the Ministry of Interior completed the first section of the Bangkok urban expressway system, with a first phase total length of 9 kilometres – which was approved for the collection of tolls. ETA completed the other two sections and the First-Stage Expressway (with a total length of 27 kilometres) was opened for traffic in 1987, funded by OECF.

The Sixth National Economic and Social Development Plan (1987 - 1991) set a direction of encouraging private sector participation in the sector and the two lead agencies began to invite private sector participation in their projects:

(a) Department of Highways (DOH) under Ministry of Transport and Communications; and
(b) ETA under Ministry of Interior

DOH signed a concession contract with Don Muang Tollway Co., Ltd. in 1989 while ETA signed the concession contract with the Bangkok Expressway Co., Ltd. in late 1988 for the Second Stage Expressway. Both of these concessions have led to operating toll expressways however each has faced considerable issues and cannot be considered successful. A third concession was awarded (by State Railway Thailand/Ministry of Transport and Communications) in 1990 was the Hopewell concession. After 8 years without progress on the implementation however the concession was terminated. Each of these three concessions is considered further below.

No other toll road PPP projects have been implemented to date in Thailand.

In early 2000's the ADB spent considerable efforts in encouraging adoption of PPP and targeted the Ministry of Finance. A number of studies were undertaken to show the advantages of this approach. However to date limited further success has been achieved.

The failure to implement a PPP type initiative for proposed toll road projects in Thailand was that proposed projects were perceived as being of high risk and low financial performance. High risk was mainly identified as competition from adjacent highways and the DOH was not prepared to provide guarantees that competing highways would not be upgraded or that new competing projects would not be constructed by the DOH.

3.5.2.1 PPP Framework

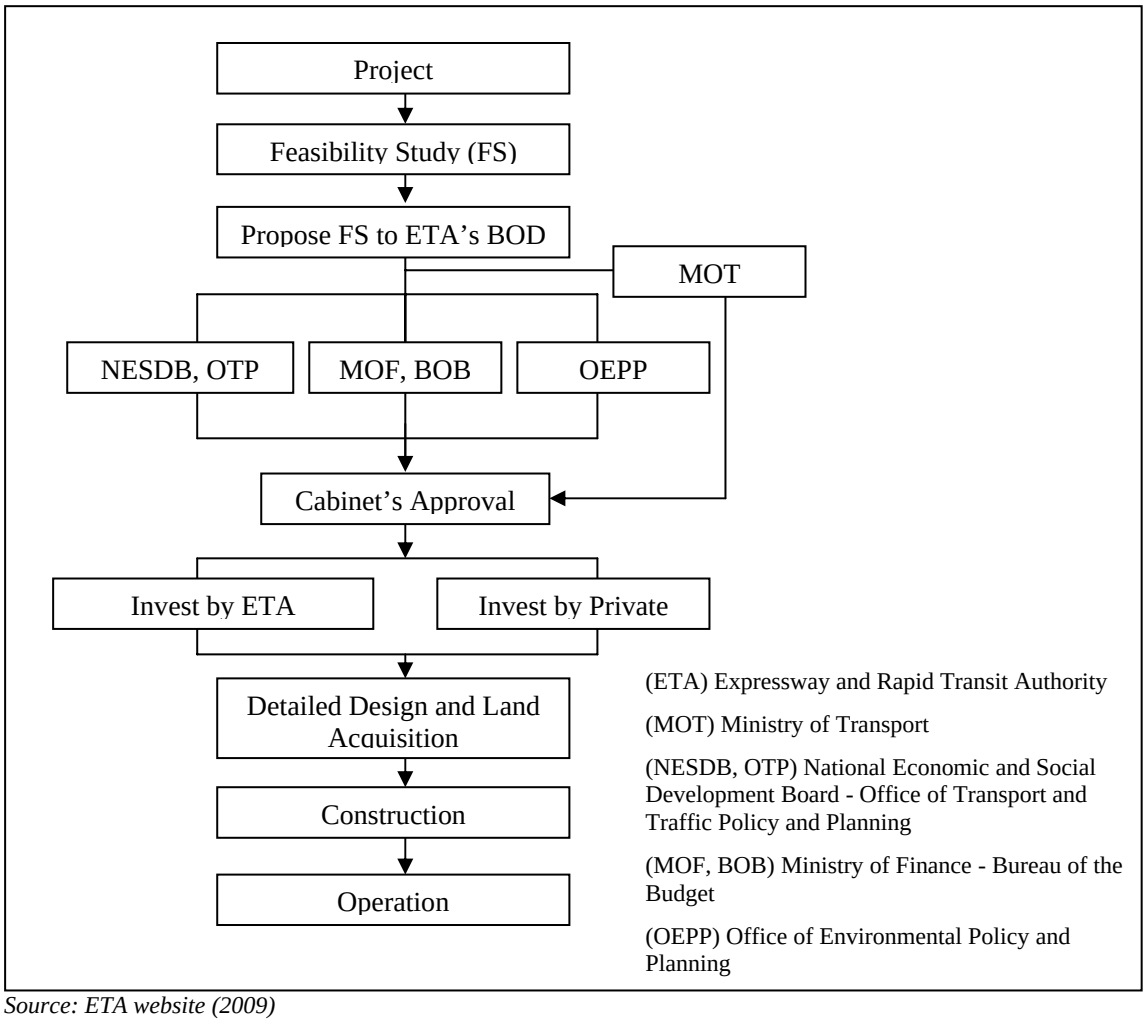
Clearly the toll road PPP market in Thailand is less developed and successful than that of Malaysia to date. In principle the Thai PPP model is similar to that of Malaysia with the private sector responsible for construction, operation and maintenance of the proposed highway in return for the right to collect tolls.

A 1993 Royal Act created the current framework for private sector participation in major infrastructure projects however there is no BOT Law in Thailand and the existing BOT process could not be regarded as fully transparent or as established as in Malaysia.

One particular feature of the Thailand scenario is the ineffective institutional framework.

The planning and decision-making process starts with the Office of the National Economic and Social Development Board (NESDB) which formulates the guidelines of the 5-Year National Economic and Social Development Plan (NESDP). There are two main ministries responsible for transportation development in Thailand: the Ministry of Transport and Communications (MOTC); and the Ministry of Interior (MOI)

Under these two ministries there are two agencies active in the development of toll expressways: the Department of Highways, DOH (under MOTC); and the Expressway and Rapid Transit Authority of Thailand, ETA (under MOI). In reality this situation has not worked well with the two agencies in effect competing with one another to in affect develop alternative expressway networks and not abiding to the NESDB plans. The implementation process under the ETA is shown in **Figure 3.5.2-1**.



Source: ETA website (2009)

FIGURE 3.5.2-1 EXPRESSWAY IMPLEMENTATION PROCESS IN THAILAND

3.5.2.2 Project Cases

Case Study 1 - Second-Stage Expressway System

The project concept for SES was developed by ETA, initially as a public sector project, however it was subsequently identified as a potential BOT opportunity, with Government support required.

An unsolicited bid was made by Bangkok Expressway Co Ltd (from BECL) was then made to ETA which resulted in award to this consortium.

Prior to scheme opening however a dispute arose, with ETA insisting that it should collect the tolls. The outcome was that foreign investors were replaced by Thai investors. Problems with land acquisition also delayed part of the project. Subsequently there have been further problems of toll increases not being awarded.

Case Study 2 - Don Muang Tollway

DOH signed a BOT-style concession contract with Don Muang Tollway Co., Ltd. in 1989. The scheme was completed and opened to traffic for tolling. However, revenue was only around 1/3 of the forecast amount and has remained well behind original forecasts since. A number of factors can be identified for the projects poor revenue performance compared to forecast:

(a) Highly optimistic traffic and revenue forecasts at the concession agreement stage,
(b) Under the agreement, Government was required to remove flyovers on the parallel road which competes with the tollroad, and the flyovers were instead to be re-constructed for orbital movements. However, these works were delayed for more than two years and the Transport and Communications Ministry would not allow toll increase (from 20 to 30 baht) until the flyovers were completed,
(c) A number of toll increments identified in the concession agreement were not implemented,
(d) Road improvement works on the existing parallel (toll-free) highway carried out by Government,
(e) The impact of the Asian Economic Crisis,
(f) The moving of international operations away from Don Muang Airport.

There were subsequent renegotiated concession agreements for the tollway and Government subsequently took a 40 percent stake in the concession company. From being a private project it has now become a quasigovernment one. The concession was the subject of an arbitration case between Government and the original (foreign) primary project sponsors.

Case Study 3 - Hopewell

A contract was awarded in 1990 by SRT/Ministry of Transport and Communications for an integrated structure with grade-separated SRT railway tracks, an MRT system and an expressway on the top level - extending a total of 60 kms to the north and east of Bangkok.

Funding for this ambitious project was to be from land development profits and the revenues from the tolled expressway. At the time the project directly competed with a number of parallel projects under implementation, and prevented many other projects, because it had access to all the land and air-rights above SRT.

The project was never implemented due to the compound impacts of:

(a) A crash in the property market
(b) The Asian Economic Crisis
(c) Having three expressways in a single corridor

After 8 years with laboured progress in implementation the government terminated the concession. The legacy of the project is being a partly-constructed elevated structure.

3.5.2.3 Key Lessons

Key lessons from the experience to date in the Thai toll road sector include:

- The importance of an effective institutional framework – the agencies in Bangkok often work in competition due to problem of redundancies and overlapping of responsibilities. The DOH and ETA has separate masterplans which recommends separate and sometimes competing toll road projects.
- The importance of transparent processes and reliable contracts – investors remain deterred due to a perceived lack of transparency and lack of confidence in the ability of Government to administer legally-binding contracts.
- The importance of effective planning and adhering to that planning – there too many competing projects and works in conflict with one another.
- The importance of strong technical due diligence – in particular to counter a strong tendency of project sponsors interested in construction projects to produce highly optimistic traffic and revenue forecasts to support their proposals.

3.6 DONOR'S PLAN TO SUPPORT PPP PROJECTS

3.6.1 The World Bank (WB)

1) Loan Assistance on Individual Project

For the Government such as upfront subsidy

It is possible for WB to provide a loan that can be used by the government to fund its support to a PPP undertaking, in order to make the project bankable and viable from the private sector's perspective. This is the model that was designed for the LRT South Extension Project.

For Private Investor

IFC is the private sector arm of the World Bank Group. As such, they deal with private sector entities, while WB deals with the government. In cases where both private and public sectors are involved as in PPP projects, both IFC and WB can be involved.

2) Technical Assistance for PPP Projects

Business Case/Feasibility Study (CALA Expressway)

WB has provided TA to DPWH to help prepare a PPP project. For CALA Expressway, DPWH will procure a Transaction Advisory Services (Consultant Team) that will update/prepare the feasibility studies and help develop the business case through the government review process, and also prepare the bidding documents for a transparent, competitive selection process of the contractor which will design, build, operate and maintain the expressway.

The Transaction Advisor Services will comprise of a team, which shall be managed by a lead advisor and will include technical, legal and financial advisors, as well as economic, environmental and social specialists. The lead advisor will be responsible for ensuring the timely submission of project deliverables and for the professional conduct and integrity of the team. The duration of consultancy services is 21 months. The scope of work is:

- Phase 1: PPP Business Case and Feasibility Study including Preliminary Engineering Design for the CALA Tollway Project. (1^{st} to 9^{th} months)
- Phase 2: PPP Procurement (10^{th} to 21^{st} months)

Capacity Development

WB initially recommended to DPWH to procure an International Advisor (IA) to assist in the procurement of the Transaction Advisory Services. The IA will help DPWH in managing and coordinating the activities of the Transaction Advisory Services for CALA Tollway Project, and in providing technical advice as well to PMO-BOT staff of DPWH in the course of project preparation. This plan however did not push through due to lack of fund.

3) Creation of PPP Project Fund

WB is providing information to the government on options and experiences on similar funds for PPP infrastructure development in other countries. However, as to the exact nature of the fund in the Philippines, and the role that WB can play, this should become clearer as the dialog with the government continues with respect to its needs, vision, and future plans for such a fund.

3.6.2 Asian Development Bank (ADB)

1) General Policy on PPP Development

In general, the ADB has four (4) pillars on PPP operation plan. These are (i) Advocacy side on PPP, (ii) Enabling Environment, (iii) Project Development, and (iv) Project Financing. Details are shown in the table below.

FOUR PILLARS OF ADB PPP OPERATIONAL PLAN

(Pillar 1) Advocacy	(Pillar 2) Enabling Environment	(Pillar 3) Project Development	(Pillar 4) Project Finance
• Create awareness • Invoke leadership • Develop capacity of governments • Identify PPP potential in sector planning and the private sector development agenda	• Develop capacity within governments to manage the development of PPPs • Develop policy, legal, regulatory and institutional frameworks to facilitate, guide and manage the development PPPs (country and sector specific)	• Assist in the development of pathfinder projects • Support throughout the process up to contract award / financial close • Transaction support which can be shaped as expert support, toolkits, funding costs of transaction advisors	• Dedicated finance on favorable terms for Viability Gap Funding etc. • Credit enhancement by offering financial instruments that may enhance a project's bankability, e.g.: equity, long term debt, refinancing, subordinate debt, co-financing, guarantees etc.

Source: ADB, 2010

2) Technical Assistance for PPP Projects

Technical assistance has been extended by ADB to private sector's project development in the past and they intend to continue this engagement. They intend to increase this engagement and plan to have 50% of their operation will be related to project development of the private sector in 2020. In the Philippines, the ADB's program on PPP can be summarized as follows:

- Limited engagement (Not very active) in Business Case/Feasibility Study
- Limited engagement (Not very active) in Tender Document Preparation and Tender Assistance
- Active engagement in Capacity Development

3) Plan to Establish PPP Fund

In the Philippines, ADB is keen on setting-up Project Development Fund (PDF) and this will probably take into form in 2011. The Pt. IIF (Indonesia Infrastructure Finance) in Indonesia which is also creation of ADB will be used as reference as well as those in India.

Aside from the planned PDF for Philippines, ADB is also eyeing to create Regional Development Fund. The users of this fund are the countries in BIMP-EAGA (Brunei, Indonesia, Malaysia and Philippines – East ASEAN Growth Area). This plan however is at the very early stage.

CHAPTER 4

LEGAL AND INSTITUTIONAL FRAMEWORK

CHAPTER 4
LEGAL AND INSTITUTIONAL FRAMEWORK

4.1 LEGAL FRAMEWORK FOR PPP PROJECTS

4.1.1 Laws and Regulations for Toll Road Development

The main laws and regulations on infrastructure implementation by the private sector are presented in **Table 4.1-1.**

In accordance with changes of these laws and regulations, the toll road development has also evolved through the following three (3) distinct approaches (see **Table 4.1-2**).

(1) Franchise Approach

Through Presidential Decree (PD) No. 1112 in 1977, the "Toll Operation Decree" was issued and the Toll Regulatory Board (TRB) was created. The TRB was authorized to enter into contracts for the construction, operation, and maintenance of toll facilities such as but not limited to national highways, roads, bridges, and public thoroughfares.

Under PD No. 1113 in 1977, the Construction and Development Corporation of the Philippines (CDCP) was granted, for a period of thirty (30) years from May 1, 1977, the right, privilege and authority to construct, operate and maintain toll facilities with extensions to Pangasinan of the North Luzon Expressway (NLEx) and to Quezon of the South Luzon Expressway (SLEx).

With PD No. 1084 in 1977, the Public Estate Authority (PEA), now Philippine Reclamation Authority (PRA), was created to reclaim land, develop all kinds of real estate owned by the government, and to provide the services for the efficient utilization of the properties.

Through PD No. 1894 in 1983, the Philippine National Construction Corporation (PNCC, formerly CDCP) was further granted the authority to construct, maintain and operate **any and all such extensions, linkages or stretches from any part of NLEx and/or Metro Manila Expressway**. The franchise for the Metro Manila Expressway and all extensions/linkages shall have **a term of thirty (30) years commencing from the date of completion of the project**.

(2) Joint Venture Approach

With the increase of traffic and deteriorated conditions of franchised expressways, needs of rehabilitation, improvement and widening of the facilities increased sharply. Since the original franchise holders did not have enough financial capacity, the private investors submitted unsolicited proposal to the original franchise holders for financing of required rehabilitation/widening/improvement of the facilities under the joint venture approach. The private investors in joint venture with the original franchise holder implemented the necessary works and the Joint Venture Company contracted the supplemental toll operation agreement (STOA) with TRB.

(3) BOT Approach

In 1990, Republic Act (RA) No. 6957, otherwise known as the BOT Law, authorized the financing, construction, operation and maintenance of infrastructure projects by the private sector.

In 1994, RA No. 6957 was amended by RA No. 7718, which, among other things, allows more BOT variants, recognizes the need for private investors to realize rates of return reflecting market conditions, allows government support for BOT projects and allows unsolicited proposals. The Revised Implementing Rules and Regulations (Revised IRR) for the BOT Law, as amended, have been prescribed to cover all private sector infrastructure or development projects.

The Revised IRR of the BOT Law, as amended, provides the legal basis for private sector participation in development project of the government, with the fifteen (15) Rules as follows:

- Rule 1: Preliminary Provisions
- Rule 2: General Provision
- Rule 3: The BOT Pre-Qualification, Bids, and Awards Committee
- Rule 4: Bid/Tender Documents
- Rule 5: Qualification of Bidders
- Rule 6: Supplemental Notices and Pre-Bid Conference
- Rule 7: Submission, Receipt and Opening of Bids
- Rule 8: Evaluation of Bids
- Rule 9: Negotiated Contract
- Rule 10: Unsolicited Proposals
- Rule 11: Award and Signing of Contract
- Rule 12: Contract Approval and Implementation
- Rule 13: Investment Incentives and Government Undertakings
- Rule 14: Coordination and Monitoring of Projects
- Rule 15: Final Provisions

Source: Annexes: The Public Bidding Process under RA 7718 (BOT Law)

TABLE 4.1-1 ($^1/_2$) PPP RELATED LAWS AND REGULATIONS

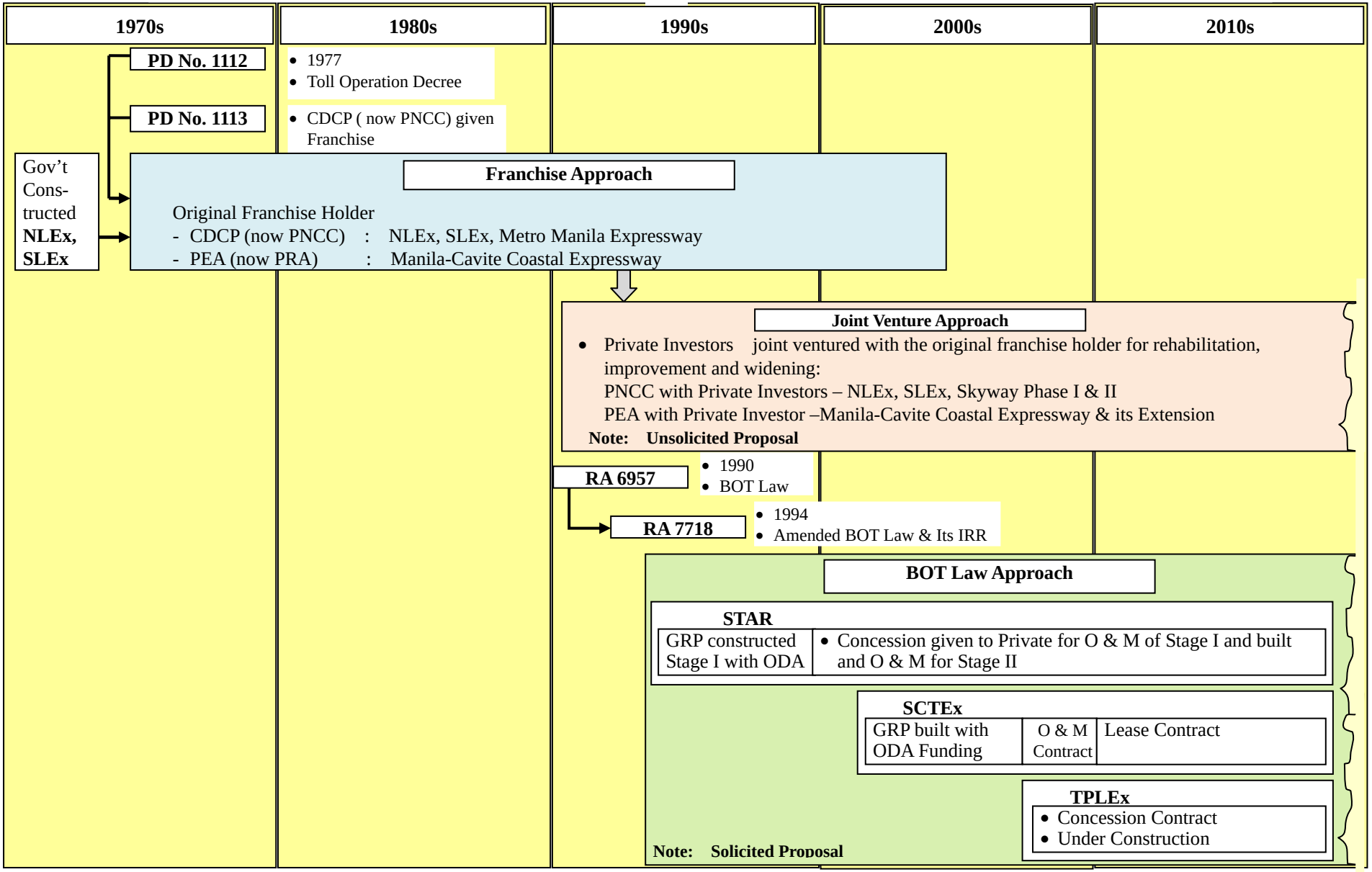
Decrees/Orders Date	Main Subject	Outlines
PD No. 1112 31st March, 1977	Toll Operation Decree	• Authorized the establishment of toll facilities on public improvements, • Created the **Toll Regulatory Board (TRB)** with the following powers and duties: - Enter into contracts for the construction, operation and maintenance of toll facilities. - Determine the kind, type and nature public improvements that can be constructed and operated as toll facilities. - Condemn private property for public use - Promulgate the rates of toll - Grant authority to operate a toll facility and issue "Toll Operation Certificate"
PD No. 1113 31st March, 1977	CDCP Franchise (North and South Luzon Toll Expressways)	• Granted **CDCP** a franchise to operate, construct and maintain toll facilities in the **North Luzon Toll Expressway** (Balintawak-Rosales) and **South Luzon Toll Expressway** (Nichols-Lucena). • Franchise was for 30 years from May 1, 1977.
PD No. 1084 4th February, 1977	Charter of Public Estates Authority (PEA)	• Created the Public Estate Authority for the following purposes, among others. - To reclaim land - To develop all kind of lands and other real estate owned/operated by the government. - To provide services for the efficient utilization of the properties.
PD No. 1894 22nd December, 1983	Amendment of PNCC Franchise	• Amended the franchise of PNCC (formerly CDCP) • **Included the Metro Manila Expressway** to link the North and South Luzon Expressways. • Granted PNCC the right to construct, maintain and operate any and all such extensions, linkages or stretches. • Franchise shall have a term of 30 years **from the date of completion of the project**.
RA No. 6957 9th July, 1990	Implementation of Infrastructure Projects by the Private Sector (BOT Law)	• Authorized the financing, construction, operation and maintenance of Infrastructure projects by the private sector..
R A No. 727 13th March, 1992	Bases Conversion and Development Authority (BCDA)	• Created BCDA to construct, own, lease, operate and maintain public utilities as well as infrastructure facilities to support the productive uses of the Clark and Subic Bay reservations.

TABLE 4.1-1 ($^{2}/_{2}$) PPP RELATED LAWS AND REGULATIONS

RA No. 7718 5th May, 1994	Amendment of BOT Law and its Implementing Rules and Regulations (IRR)	• Amended RA No. 6957 by, among others, - Allowing more variants of BOT scheme - Recognizing the need of private investors for rates of return reflecting market conditions - Authorizing government support for BOT projects - Allowing unsolicited proposals
Executive Order (EO) 144 2nd November, 2002	BOT Center	• Reorganized the Coordinating Council for Private Sector Participation into the BOT Center under the Department of Trade and Industry, to promote, market, coordinate and monitor the BOT/ Private Sector Participation (PSP) Program of the Government
Executive Order (EO) 380 26th October, 2004	Transforming the PEA	• Transforming PEA into the Philippine Reclamation Authority (PRA), • Transferring its Non-Reclamation Assets and Liability to the Department of Finance, and • Separating there form the PEA-Tollway Corporation for Purpose of Management
Executive Order (EO) 423 30th April, 2005	Rules and Procedures on the Review and Approval of all Government Contract	• Conform with RA No. 9184 "The Government Procurement Reform Act" • Guidelines and procedures for entering into Joint Venture Agreement between Government and Private Entities
Executive Order (EO) 686 19th December, 2007	Transfer of TRB to DOTC and its Mandate (Delineation of mandates between DPWH and TRB)	• Transferred back TRB from DPWH to DOTC and clarified its mandate. • Vested in DPWH the following powers: - Enter into contract for the construction, operation and maintenance of toll facilities for highways, roads, bridges and thoroughfares. - Determine the kind, type and nature of highways, roads, bridges and thoroughfares. - Condemn private property for the same • Orders TRB to concentrate on the following powers; - Issue, modify and proclaim the rates of toll and approve or disapprove petitions for the increases; and - Grant authority to operate a toll facility and issue the necessary "Toll Operation Certificate".
Executive Order (EO) 8 9th September 2010	BOT Center renamed to PPP Center and transferring from DTI to NEDA to revitalize BOT Center	• BOT Center renamed to PPP Center • Transferred from DTI to NEDA • Conduct project facilitation and assistance to National Agencies and Corporation and LGUs • Provide advisory services and technical assistance • Manage and administer Project Development and Monitoring Facility • Monitor and facilitate PPP projects

Source: Compiled by JICA Study Team

TABLE 4.1-2 HISTORICAL FLOW OF PRIVATE SECTOR PARTICIPATION IN EXPRESSWAY SERVICES



Source: JICA STUDY TEAM

4.2 INSTITUTIONAL STRUCTURE ON TOLL ROAD DEVELOPMENT

(1) Main Players in Toll Road Development

The Revised Implementing Rules and Regulations (IRR) of the BOT Law shall cover all private sector infrastructure and development projects undertaken by Agencies/LGUs in accordance with such contractual arrangement or schemes authorized under and pursuant to RA No. 6957, as amended by RA No. 7718.

The Revised IRR also provides the rules and regulations to assure close coordination between national government and Local Government Units (LGUs) and ensure strict compliance by the Government and the Project Proponent of their respective obligations and undertakings and monitoring.

For the development of toll roads, many departments, authorities and offices as well as private entities are involved as shown in **Figure 4.2-1**. Responsibility and relationship between major players under BOT Law (Solicited Proposal) is shown in **Figure 4.2-2** and those for Joint Venture Approach is shown in **Figure 4.2-3**. The Department of Public Works and Highways (DPWH), as the Agency, identifies projects and prepare the feasibility studies including all necessary documents and submit these to the Approving Body for approval.

The National Economic and Development Authority (NEDA) Board, as the Approving Body, approves the project upon the recommendation by the Investment Coordination Committee (ICC).

Prior to the bidding, the DPWH shall secure the advice of the TRB as the Regulator or the approval of the Approving Body or both, on the pre-determined formula and official price indices to be used in the adjustment of the toll rates prescribed in the Instructions to Bidders and the approved contract.

Under Executive Order (EO) No. 686, 19th December 2007, the TRB was transferred back from the DPWH to the Department of Transportation and Communication (DOTC), and the roles or powers vested in the DPWH and the TRB were demarcated as follows:

Roles of DPWH

- To enter into contracts for the construction, operation and maintenance of toll facilities for highways, roads, bridges and public thoroughfares.
- To determine and decide the kind, type and nature of highways, roads, bridges and public thoroughfares.
- To condemn private property for highways, roads, bridges, and public thoroughfares.

Roles of TRB

- To issue, modify and proclaim from time to time the rates of toll that will be charged the direct users of toll facilities and upon notice and hearing, to approve or disapprove petitions for the increase; and
- To grant authority to operate a facility and to issue necessary “Toll Operation Certificate”.

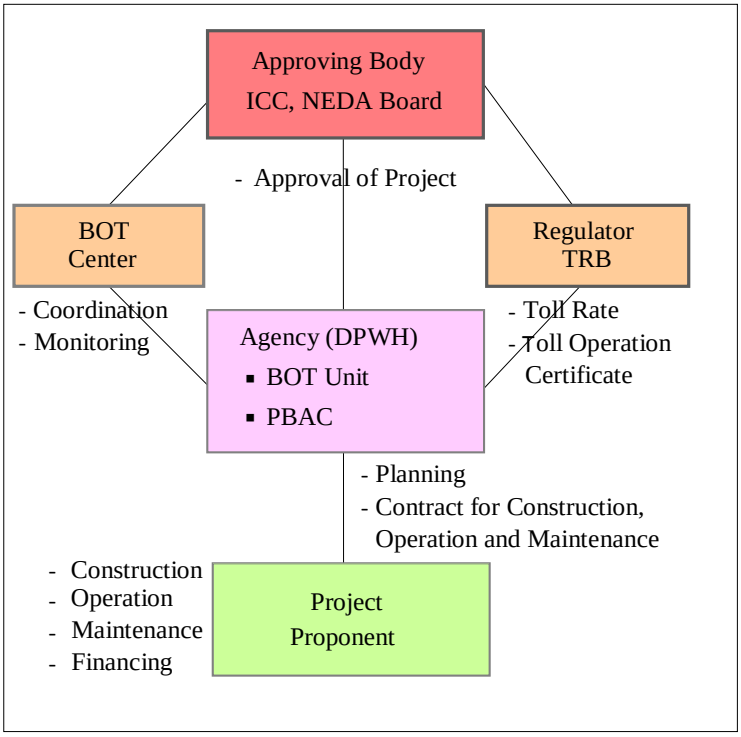


FIGURE 4.2-1 MAIN PLAYERS IN TOLL ROAD DEVELOPMENT

Definition of terms by IRR of RA 7718 is as follows;

Agency - Any department, bureau, office, commission, authority of agency of the national government, e.g., the DPWH for toll roads.

Approving Body - The entity authorized to approve projects. ICC, NEDA Board or Local Sanggunian for toll roads.

BOT Center - The successor of the Coordinating Council of the Philippines Assistance Program (CCPAP), the agency mandated to coordinate and monitor projects implementation under the BOT Law.

BOT Units - The units created by each Agency/LGU, responsible for planning, overseeing and monitoring projects of Agencies/LGUs.

ICC - The Investment Coordination Committee of the National Economic and Development Authority (NEDA) Board.

Project Proponent - The private sector entity which shall have contractual responsibility for the project and which shall have an adequate track record in the concerned industry as well as technical capability and financial base.

PBAC - The Pre-Qualifications, Bids, and Awards Committee created by the Head of Agency/LGU, responsible for all aspects of the pre-bidding and bidding process in case of solicited proposals, and for the comparative bidding process (otherwise known as the "Swiss Challenge").

Regulator - The agency, body or commission empowered by law to fix the rates of a provider of a particular public service, e.g., the TRB for toll roads.

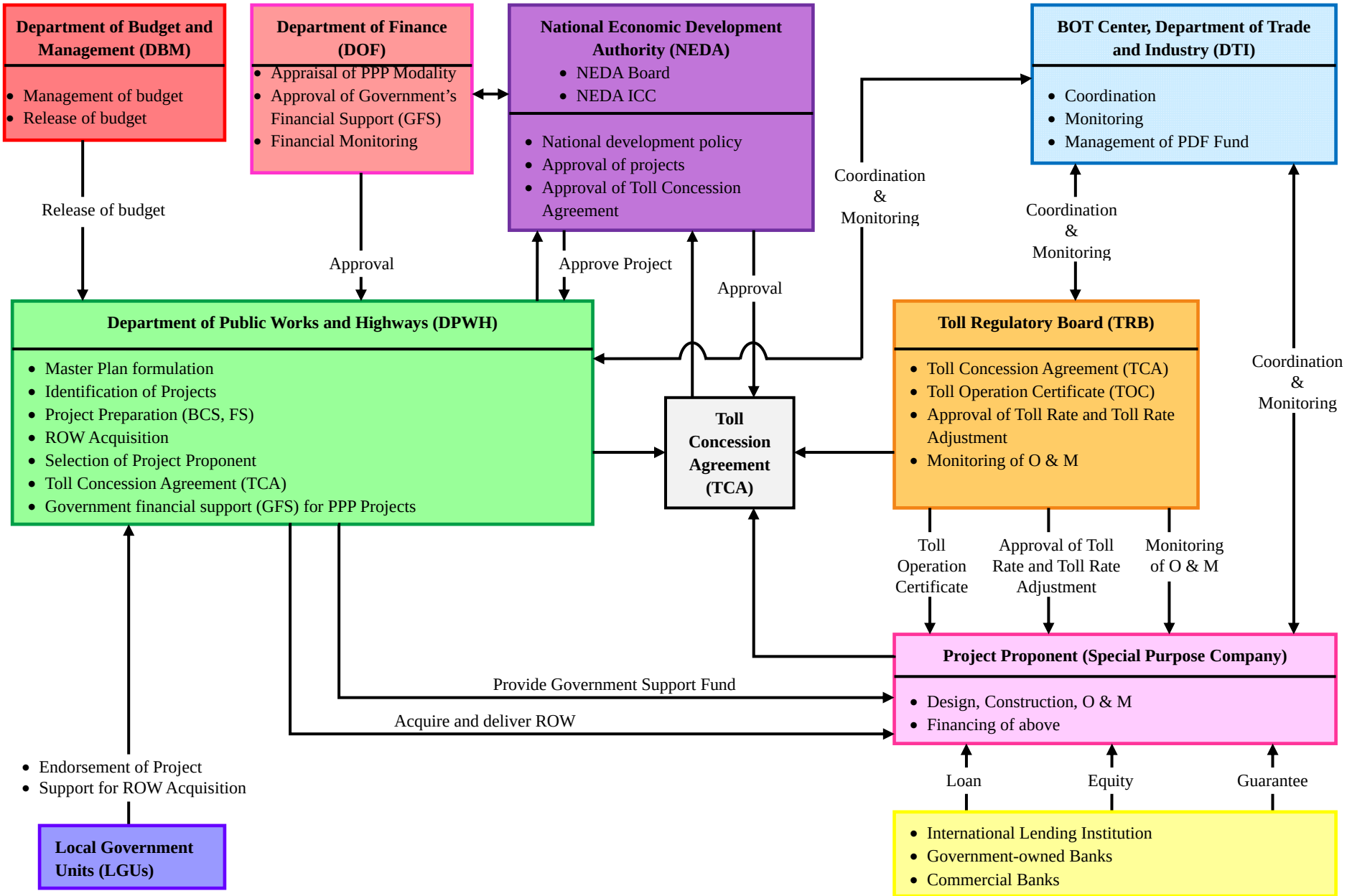


FIGURE 4.2-2 MAJOR PLAYERS UNDER BOT LAW (SOLICITED PROPOSAL)

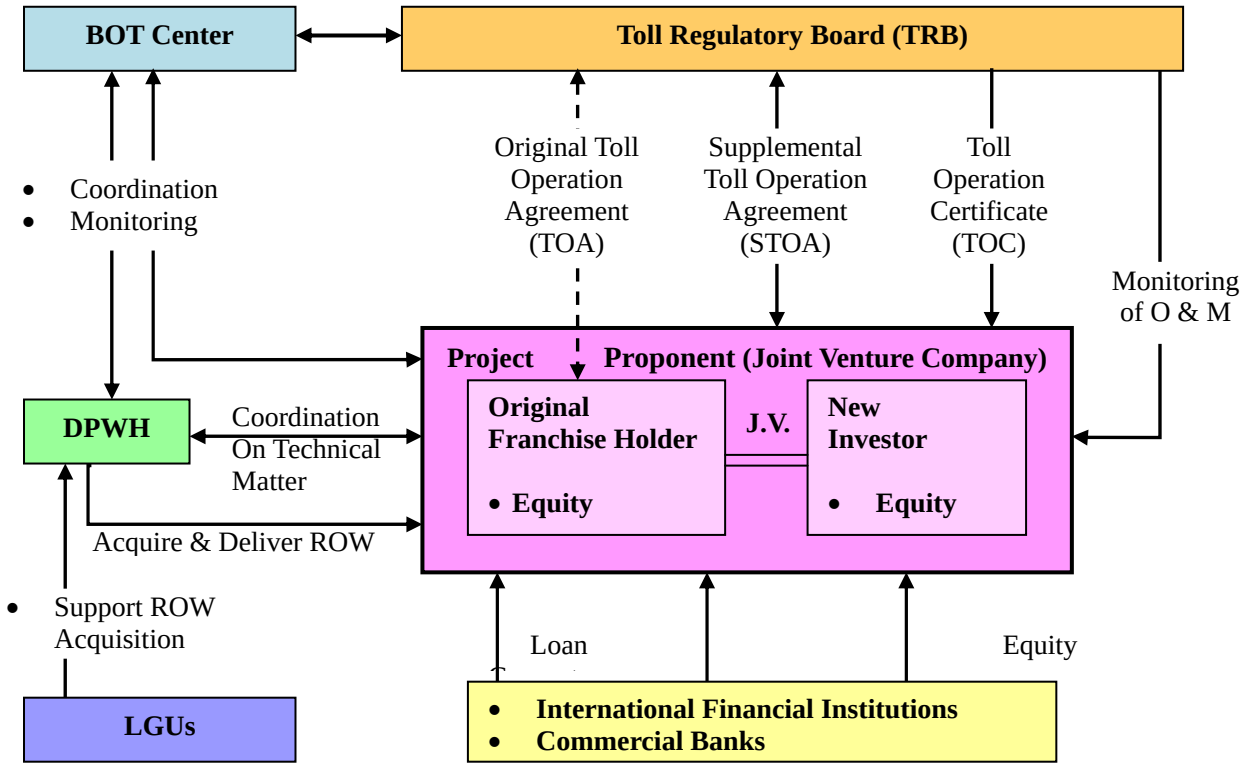


FIGURE 4.2-3 MAJOR PLAYERS UNDER JOINT VENTURE APPROACH

(2) Delineation of Roles In Toll Road Implementation

In implementing toll road projects, the processes required under the different stages are shown in **Table 4.2-1.**

TABLE 4.2-1 TOLL ROAD IMPLEMENTATION STAGES

	Public Bidding	**Unsolicited Proposal**
Stage 1	Project Approval	Approval of Project Proposal and Contract
Stage 2	Public Bidding and Contract Approval	Comparative Proposals and Contract Approval
Stage 3	Detailed Engineering Design	Detailed Engineering Design
Stage 4	Construction, Operation and Maintenance	Construction, Operation and Maintenance
Stage 5	Contract Termination/Rescission	Contract Termination/Rescission
Stage 6	Repayment	Repayment
Stage 7	Investment Incentives and Government Undertakings	Investment Incentives and Government Undertakings
Stage 8	Coordination and Monitoring	Coordination and Monitoring

Source: IRR of RA 7718

Each stage involves critical activities of project implementation, which shall be executed at the right time by the government and/or project proponent in accordance with the rules and regulations. The government and project proponent shall perform their respective responsibilities and roles in accordance with the revised IRR, as shown in **Table 4.2-2** for Public Bidding Process and **Table 4.2-3** for Unsolicited Proposals.

TABLE 4.2-2 ($^1/_3$) DELINEATION OF ROLES IN TOLL ROAD IMPLEMENTATION PUBLIC BIDDING UNDER RA 7718 (BOT LAW)

Stages	Activities	Government	Project Proponent
1. Project Approval	1.1 Project ID and Preparation	By Agency (F/S, Contract Documents)	-
	1.2 Approval of Project	By Approving Body (ICC, NEDA Board, Local Sanggunian)	-
2. Public Bidding and Contract Approval	2.1 Advertisement and Invitation to P.Q.	By PBAC	-
	2.2 Preparation of P.Q. Document	-	Preparation
	2.3 P.Q. of Bidders	By PBAC	-
	2.4 Proposals/Bid Preparation	Issuance of Request by agency (Pre-Bid Conference by PBAC)	Preparation
	2.5 Bid Submission and Evaluation	Evaluation by PBAC	Submission (2 envelopes)
	2.6 Approval of Contract Award	- Recommendation by PBAC - Approval by Agency	-
	2.7 Issuance of Notice of Award	By Agency	-
	2.8 Execution/ Approval of Contract	- Execution by authorized signatory of Agency - Submission of copy of signed contract to Approving Body	- Execution by authorized signatory of winning proponent
	2.9 Issuance of Notice to Commence Implementation	By Agency	
3. Detailed Engineering Design	3.1 Detailed Engineering (DE) Designs and Plans	Preparation of DE (government option) Setting of design performance standards	Preparation of DE based on government performance standards
	3.2 Review and Approval of Detailed Engineering Design and Plans	By Agency	
4.Construction	4.1 Project Construction	-	- Construction per design/performance standards. - Proponent may engage qualified foreign/Filipino contractors
	4.2 Performance Guarantee/ Security		Posting of Security in cash, LC, bank guarantee, surety bond to guarantee con-tract obligations up to project acceptance.
	4.3 Technical Supervision/ Review of Project Construction	Inspection and checking to determine conformance with plans, specs and standards	Correction of deviations
	4.4 Contract Variation	- Recommendation by Agency - Prior approval by Approving Body	-

Source: IRR of RA 7718

TABLE 4.2-2 (2/3) DELINEATION OF ROLES IN TOLL ROAD IMPLEMENTATION PUBLIC BIDDING UNDER RA 7718 (BOT LAW)

4.Construction	4.5 Milestones	Setting of milestones as part of bidding documents	Execution of Project in accordance with pre-determined milestones
	4.6 Liquidated Damages	-	Damages due for every day of delay beyond target completion date
	4.7 Contract Termination/ Rescission	Rescission if Project Proponent fails to perform any provision of approved contract	Termination if Agency fails to comply with any major obligation in approved contract
5. Operation and Maintenance	5.1 Performance Guarantee/ Security for Operation		Posting of Security in cash, LC, bank guarantee, surety bond to guarantee proper operation
	5.2 Repair and Maintenance Costs		- Repair/ maintenance per performance standards - Set aside maintenance fund from revenues and deposit in escrow account_
	5.2 Contract Termination/ Rescission	Rescission if Project Proponent fails to perform any provision of approved contract	Termination if Agency fails to comply with any major obligation in approved contract
	5.3 Transfer of and warranty over Facility	-	Post Warranty Security
6. Repayment Schemes	6.1 General Classification	- Depends on contractual arrangement or as accepted by Approving Body	For BOT arrangement: Collection of reasonable tolls, fees, and charges for a fixed term.
	6.2 Tolls, fees, Rentals, and Charges	- Evaluated by Agency in Bid - Approved by Approving Body - Incorporated in the contract - Upheld by Regulator	Charging approved tolls, fees, charges
	6.3 Adjustment of Tolls/Fees/ Rentals/ Charges	- Pre-determination of toll adjustment formula and official price indices and inclusion in Instructions to Bidders - Prior to bidding, secure advice of Regulator and/or approval of Approving Body for such formula	Actual adjustment based on pre-determined formula and official price indices in the approved contract
7. Investment Incentives	7.1 Available Investment Incentives	- As provided for under Omnibus Investment Code	Availing of incentives

Source: IRR of RA 7718

TABLE 4.2-2 (3/3) DELINEATION OF ROLES IN TOLL ROAD IMPLEMENTATION PUBLIC BIDDING UNDER RA 7718 (BOT LAW)

8. Government Undertakings	8.1 Cost sharing for Construction	- May provide ROW and, where applicable, financing (GFS) of portion/share of capital cost not exceeding 50% of total cost - May finance GFS from ODA	Financing of the capital cost, net of GFS
	8.2 Credit Enhancement	- May include guarantee on performance of Agency obligations	
	8.3 Direct government subsidy for O&M	- May finance a portion of O&M cost, or condone/ postpone payments due from proponent, or contribute property to the project	
	8.4 Direct government equity	- May subscribe shares of stocks of the project company	
	8.5 Performance Undertaking	- May assume responsibility for the performance of Agency's obligations under the contract, including monetary obligations for default.	
	8.6 General	- Agency may offer any of above Government undertakings to be submitted to the Approving Body for approval of the project and the contract - Agency should pre-clear the undertakings with the entity that will grant the same	
9. Coordination and Monitoring of Projects	9.1 Coordination and Monitoring 9.2 Report to ICC, President and Congress	- BOT Center shall be responsible - BOT Unit of Agency shall be responsible for planning, overseeing and monitoring projects	

Source: IRR of RA 7718

TABLE 4.2-3 ($^1/_2$) DELINEATION OF ROLES IN TOLL ROAD IMPLEMENTATION UNSOLICITED PROPOSALS UNDER RA 7718 (BOT LAW)

Stages	Activities/ Aspects	Government	Project Proponent
1. Approval of Project Proposal and Contract	1.1 Project Proposal	-	Preparation (F/S, Company Profile, Draft Contract)
	1.2 Evaluation of Proposal	- Evaluation of project proposal by Agency - Information to Approving Body on acceptance or rejection	Original Proponent to notify the Agency of its acceptance of the terms of the approval.
	1.3 Negotiation with Original Proponent	- Negotiation - Confirmation of indicative reasonable rate of return from Approving Body	Negotiation
	1.4 Approval of Project Proposal and Contract	- By Approving Agency	-
2. Comparative Proposals and Contract Approval	2.1 Adjustment of Tolls/Fees/ Rentals/Charges	- Advice of Regulator/ approval of Approving Body for pre-determined toll rate adjustment formula and official price indices	-
	2.2 Acceptance of Terms and Conditions	-	Acceptance
	2.3 Issuance of Invitation for Comparative Proposals	By Agency	
	2.4 Preparation and Submission of Comparative Proposals	Pre-Bid Conference by PBAC	Preparation and Submission of Comparative Proposals by Proponents (3 envelopes)
	2.5 Evaluation of Proposals	By PBAC	
	2.6 Determination of Winning Proponent	By Agency	Original Proponent shall have the right to match the best proposal
	2.7 Approval of Contract Award	- Recommendation by PBAC - Approval by Agency	-
	2.8 Issuance of Notice of Award	By Agency	-

Source: IRR of RA 7718

TABLE 4.2-3 ($^2/_2$) ROLE SHARING IN TOLL ROAD IMPLEMENTATION BY PRIVATE SECTOR UNSOLICITED PROPOSALS UNDER RA 7718 (BOT LAW)

2. Comparative Proposals and Contract Approval	2.9 Execution/ Approval of Contract	- Execution by authorized signatory of Agency - Submission of copy of signed contract to Approving body	- Execution by authorized signatory of winning proponent
	2.10 Issuance of Notice to Commence Implementation	By Agency	-
3. Detailed Engineering Design	Same as Public Bidding Projects		
4. Construction	Same as Public Bidding Projects		
5. Operation and Maintenance	Same as Public Bidding Projects		
6. Repayment Schemes	Same as Public Bidding Projects		
7. Investment Incentives	Same as Public Bidding Projects		
8. Government Undertakings	8.1 Cost sharing for Construction	Same as Public Bidding Projects	Same as Public Bidding Projects
	8.2 Credit Enhancement	No direct government guarantee allowed	
	8.3 Direct government subsidy for O&M	No direct government subsidy allowed	
	8.4 Direct government equity	No direct government equity allowed	
	8.5 Performance Undertaking	No direct government guarantee, subsidy or equity subsidy allowed	

Source: IRR of RA 7718

4.3 BIDDING PROCESS UNDER RA 7718

The Revised IRR prescribes the fifteen (15) rules covering all stages of project implementation such as project identification and approval, bidding and contract approval, detailed engineering, construction, operation and maintenance, repayment scheme, instrument incentive, and coordination and monitoring of projects.

As the bidding process for toll road projects, the following two (2) methods, the public bidding process and process for unsolicited proposals are accepted. Refer to **Figure 4.3-1.**

Method 1: Public Bidding Process

- Option 1: Pre-qualification undertaken prior to Issuance of Request for Proposals

- Option 2: Qualification incorporated in the Bidding Process

The public bidding process is understood as the conventional and solicited approach. Under Option 1, upon the approval of the project, the agency publishes the invitation to apply for pre-qualification (PQ) and to bid within a certain period. Interested bidders submit PQ documents, and pre-qualified bidders are requested to submit technical and financial proposals including the bid security. Under Option 2, the qualification process is incorporated so that interested bidders submit their proposals in three envelopes, qualification documents, technical proposal and financial proposal.

Method 2: Process for Unsolicited Proposals

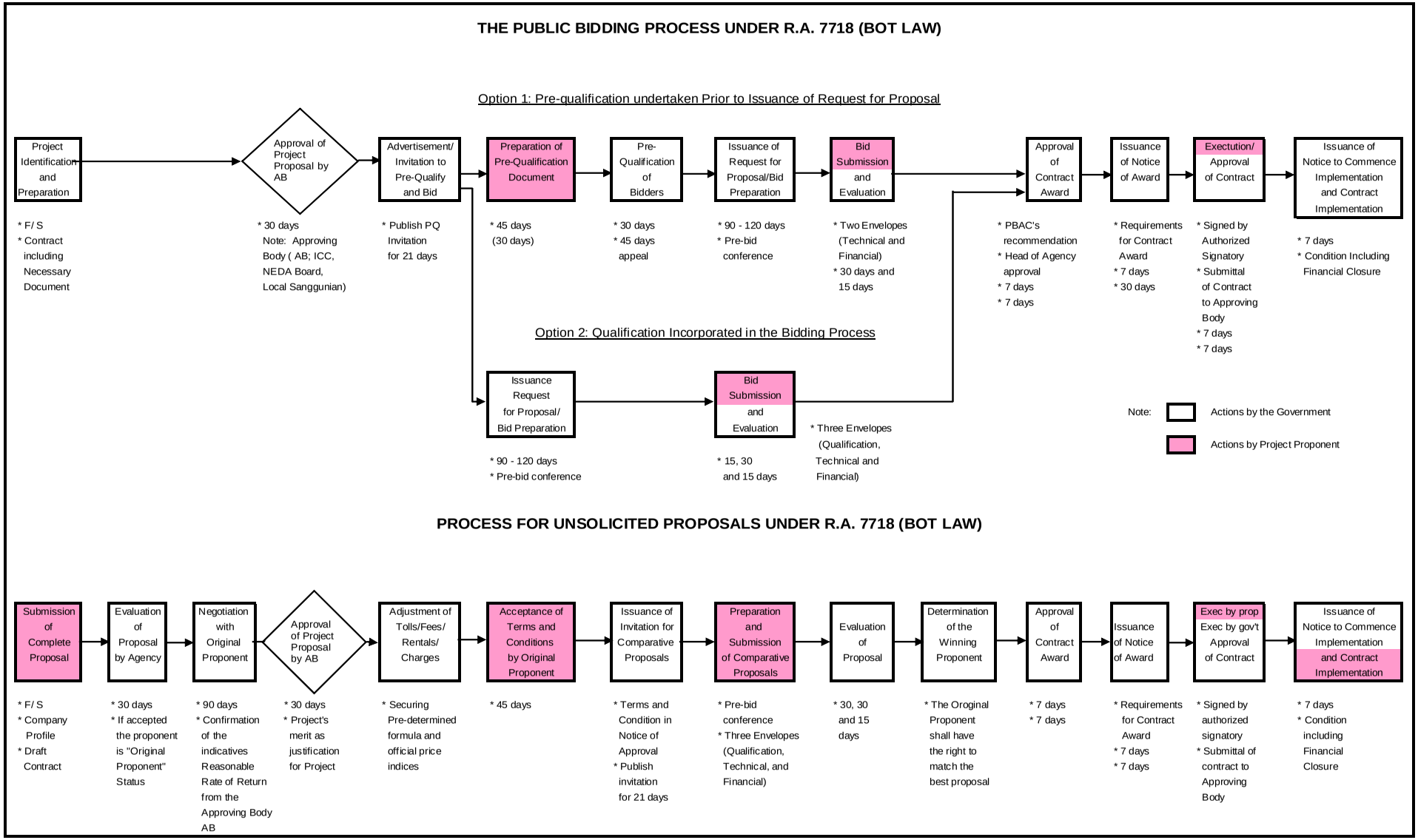
A Project Proponent prepares and submits to the Agency a complete proposal, consisting of at least a feasibility study, company profile, and a draft contract. Unsolicited Proposals may be accepted by the Agency on a negotiated basis provided that all the following conditions are met.

a) The project involves a new concept or technology and/or is not part of the List of Priority Projects,

b) No Direct Government Guarantee, subsidy or equity is required, and

c) The Agency has invited comparative or competitive proposals and no other proposal is received for a period of sixty (60) working days.

Prior to bidding, the Agency shall secure either the advice of the regulator or the approval of the Approving Body or both, for the pre-determined formula and official price indices for the adjustment of the tolls that may be granted during contract implementation.



Source: Prepared by the JICA Study Team based on RA 77`18

FIGURE 4.3-1 BIDDING PROCESS UNDER RA 7718 (BOT LAW)

4.4 TRANSPORT RELATED LAWS AND REGULATIONS

Transport related laws and regulations are shown in **Table 4.4-1**.

TABLE 4.4-1(1/5) TRANSPORT RELATED LAWS AND REGULATIONS

		Law	Year	Title
DOTC	1	Executive Order No. 546	1979	Creating a Ministry of Public Works and a Ministry of Transportation and Communications
	2	Executive Order No. 125	1987	Reorganizing the Ministry of Transportation and Communications, and renaming to Department of Transportation and Communications (DOTC)
	3	Executive Order No. 125-A	1987	Amending Executive Order No 125
	4	Executive Order No. 188	1987	Further Amending Section 5 of *Presidential Decree No. 492*, As Amended.
	5	Executive Order No. 266	1987	Providing for two Service Units in the Office of the Assistant Secretary for Land Transportation in DOTC.
	6	Administrative Order No. 86	1988	Providing for one Service Unit in the Office of the Assistant Secretary for Administrative and Legal Affairs in DOTC.
	7	Executive Order No. 435	1997	Devolving to the ARMM certain powers and functions of the DOTC, including its sectoral offices and attached agencies
LTO	8	Republic Act No. 4136	1964	Act to compile the Laws relative to Land Transportation and Traffic Rules, and to create a Land Transportation Commission
	9	Presidential Decree No. 1057	1976	**Amending Republic Act No. 4136, otherwise known as the Land Transportation and Traffic Code, and creating the Land Transportation Office (LTO)**
LTFRB	10	Executive Order No. 1011	1985	Establishing the Land Transportation Commission in the Ministry of Transportation and Communications
	11	Executive Order No. 202	1987	**Creating the Land Transportation Franchising and Regulatory Board (LTFRB)**
OTC	12	Presidential Decree No. 175	1973	Strengthening the Cooperative Movement, and creating the Office of Transportation Cooperatives
	13	Memorandum Order No. 395		Creating a Committee to study ways/means to encourage public utility vehicle drivers to organize themselves into cooperatives.
	14	Executive Order No. 898	1983	Reorganizing the Committee on Transportation Cooperatives and broadening its powers and functions.
	15	Executive Order No. 1030	1985	Amending Executive Order 898

Note:

DOTC - Department of Transportation and Communications
LTO - Land Transportation Office
LTFRB - Land Transportation Franchising and Regulatory Board
OTC - Office of Transportation Cooperative

TABLE 4.4-1($^{2}/_{5}$) TRANSPORT RELATED LAWS AND REGULATIONS

		Law	Year	Title
PNCC	16	Presidential Decree No. 1113	1977	Granting the Construction & Development Corporation of the Philippines (CDCP) a franchise to operate, construct and maintain toll facilities in the North and South Luzon Toll Expressways
	17	Presidential Decree No. 1894	1983	Amending the franchise of the Philippine National Construction Corporation (PNCC) to construct, maintain and operate toll facilities in the North Luzon and South Luzon Expressways to include the Metro Manila Expressway
PNR	18	Republic Act No. 4156	1964	Act creating the Philippine National Railways (PNR)
	19	Republic Act No. 6366	1971	Act to provide for the rehabilitation and modernization of the PNR
	20	Presidential Decree No. 741	1975	Amending Republic Act 4156, as amended by Republic Act 6366
	21	Executive Order 176	1999	Placing the PNR, LRTA, and all other railway and mass transit projects under the supervision of DOTC
LRTA	22	Executive Order No. 603	1980	Act creating Light Rail Transit Authority (LRTA), and vesting it with authority to construct and operate LRT
	23	Executive Order No. 210	1987	Amending Executive Order 603
	24	Executive Order No. 710		Further amending Executive Order 603
NORTHRAIL	25	Executive Order No. 232	2003	Directing DOTC to exercise primary oversight functions over the North Rail Project, transferring North Luzon Railways Corporation (NORTHRAIL) from the Office of the President to DOTC
MARINA	26	Presidential Decree No. 474	1974	Providing for the reorganization of maritime functions in the Philippines, creating the Maritime Industry Authority (MARINA)
PPA	27	Presidential Decree No. 505	1974	Providing for the reorganization of port administration and operation in the country and creating the Philippine Ports Authority (PPA)
	28	Presidential Decree No. 857	1975	Revising Presidential Decree No. 505
	29	Executive Order No. 513	1978	Reorganizing the Philippine Ports Authority
CPA	30	Republic Act No. 7621	1992	Act creating the Cebu Ports Authority (CPA)

Note:

PNCC - Philippine National Construction Corporation
PNR - Philippine National Railways
LRTA - Light Rail Transit Authority
NORTHRAIL - North Luzon Railways Corporation
MARINA - Maritime Industry Authority
PPA - Philippine Ports Authority
CPA - Cebu Ports Authority

TABLE 4.4-1($^{3}/_{5}$) TRANSPORT RELATED LAWS AND REGULATIONS

		Law	Year	Title
Philippine Coast Guard	31	Republic Act No. 5173	1967	Act creating the Philippine Coast Guard
	32	Presidential Decree No. 601	1974	Revision of Republic Act 5173
	33	Presidential Decree No. 602	1974	Establishing Oil Pollution Operations Center in the Philippine Coast Guard Headquarters
	34	Executive Order 475	1998 (Mar.)	Transferring the Philippine Coast Guard from the Department of National Defense to the Office of the President
	35	Executive Order 477	1998 (Apr.)	Transferring the Philippine Coast Guard to the DOTC
PMMA	36	Republic Act No. 3680	1963	Act converting the Philippine Nautical School into the Philippine Merchant Marine Academy (PMMA)
	37	Presidential Decree No. 1110	1977	Amending Republic Act No. 3680
CAB	38	Republic Act No. 776	1952	Act to recognized the Civil Aeronautics Board (CAB) and the Bureau of Air Transportation to provide for the Regulation of Civil Aeronautics in the Philippines
	39	Presidential Decree No. 589	1974	Making Rules and Regulations issued by the Civil Aeronautics Administration pursuant to R.A. 776 binding upon the passenger and shipper.
	40	Presidential Decree No. 1462	1978	Amending certain Sections of Republic Act 776
	41	Executive Order No. 1009	1985	Strengthening the policy formulating capability of the Civil Aeronautics Board.
	42	Executive Order No. 217	1987	Further Amending Section 5 Of R.A. 776, As Amended.
CAAP	43	Republic Act No. 9497	2008	Act creating the Civil Aviation Authority of the Philippines (CAAP)
MIAA	44	Executive Order No. 778	1982	Creating the Manila International Airport Authority (MIAA)
	45	Executive Order No. 903	1983 (Jul.)	Revision of Executive Order No. 778
	46	Executive Order No. 909	1983 (Sep.)	Further amending Executive Order No. 778
	47	Executive Order No. 298	1987	Amending Executive Order No. 778, as amended by Executive Orders Nos. 903 And 909
	48	Republic Act No. 6639	1987	Act renaming the Manila International Airport (MIA) as the Ninoy Aquino International Airport (NAIA)
	49	Executive Order No. 341	2004	Reorganizing the Manila International Airport Authority (MIAA)

Note:

PMMA - Philippine Merchant Marine Academy
CAB - Civil Aeronautics Board
CAAP - Civil Aviation Authority of the Philippines
MIAA - Manila International Airport Authority

TABLE 4.4-1($^{4}/_{5}$) TRANSPORT RELATED LAWS AND REGULATIONS

		Law	Year	Title
MCIA	50	Republic Act No. 6958	1990	Act creating the Mactan-Cebu International Airport Authority (MCIA)
Panglao Airport Development Project	51	Memorandum Order No. 157	2004	Creating a Project Management Office for the Panglao Airport Development Project.
	52	Memorandum Order No. 178	2005	Establishing the Panglao Tourism Special Infrastructure Program
	53	Memorandum Order No. 178-A	2006	Amending M.O. 178 and placing the management, administration and maintenance of the Panglao Tourism Special Infrastructure Program under DOTC
PADC	54	Presidential Decree No. 286	1973 (Sep.)	Authorizing the creation of Philippine Aerospace Development Corporation (PADC)
	55	Presidential Decree No. 346	1973 (Dec.)	Amending Presidential Decree No. 286
	56	Presidential Decree No. 696	1975 (May)	Further revising Presidential Decree No. 286
	57	Presidential Decree No. 841	1975 (Dec.)	Further amending Presidential Decree No. 696
	58	Executive Order No. 904	1983	Modifying the composition of the Board of Directors of PADC
CIAC	59	Executive Order No. 174	1994 (Apr.)	Designation of Clark Special Economic Zone as future site of a premier Philippine International Airport
	60	Executive Order No. 192	1994 (Jul.)	Authorizing the establishment of Clark International Airport Corp. to operate/manage Clark Aviation Complex
	61	Executive Order No. 360	1996 (Aug.)	Amending E.O. 192 (s.1994)
	62	Executive Order No. 007	2001	Merger of Clark Development Corporation (CDC) and Clark International Airport Corporation (CIAC)
	63	Executive Order No. 186	2003	Re-Establishing the CIAC as a subsidiary of the Bases Conversion Development Authority (BCDA)
	64	Executive Order No. 193	2003	Establishing the CIAC as subsidiary of the CDC, and repealing Executive Order No. 186
	65	Executive Order No. 253	2003	Providing for the expansion of Air Services to the Diosdado Macapagal International Airport (DMIA) and Subic Bay International Airport (SBIA)
	66	Executive Order No. 500	2006	Expansion of Air Services to the DMIA and SBIA
	67	Executive Order No. 500-A	2006	Amending E.O. 500
	68	Executive Order. No. 716	2008	Transforming the CIAC into a subsidiary of the BCDA and Amending E.O. 193

Note:

MCIA - Mactan-Cebu International Airport Authority
PADC - Philippine Aerospace Development Corporation
CIAC - Clark International Airport Corporation

TABLE 4.4-1($^{5}/_{5}$) TRANSPORT RELATED LAWS AND REGULATIONS

		Law	Year	Title
OTS	69	Executive Order No. 277	2004 (Jan.)	Approving/adopting the National Civil Aviation Security Programme and creating the Office of Transport Security (OTS)
	70	Executive Order No. 311	2004 (Apr.)	Designating OTS as the single authority responsible for security of transportation systems of the country
COA	71	COA Guidelines	1979	General Auditing and Accounting Manual
	72	COA Circular No. 2001-005	2001	National Government Accounting System

Note:

OTS - Office of Transport Security
COA - Commission on Audit

4.5 DIRECTION OF AMENDMENT OF IRR OF BOT LAW AND OTHER LAWS

4.5.1 IRR of BOT Law

In 2007, the possible amendment of IRR of BOT Law was studied and a public hearing was also held. Draft amendments were proposed by NEDA to the BOT Law IRR committee composed of 9 secretaries of concerned Agencies, however, the proposal is not acted yet.

Major proposed amendments are as follows;

1) Approval of individual projects and draft contract

Present: To be approved by NEDA ICC and NEDA Board, as the case may be.

Proposed Amendment: To be approved by the head of the implementing agency. The contracts entered by the Agency only become effective upon NEDA Board confirmation, except those projects requiring Presidential approval.

2) List of Priority Projects

Present: Concerned Agencies are tasked to prepare their infrastructure or development programs and to identify specific priority projects and submit for approval by the Approving Body.

Proposed Amendment: The concerned approving body shall now only approve the "List of Priority Projects" based on a template of minimum hurdle/s to be formulated by NEDA-ICC.

In case of unsolicited projects as well as negotiated contracts, the ICC, upon endorsement of the Head of Agency/LGU, shall determine the reasonable rate of return on investments prior to negotiation and/or call for comparative proposals.

List of Priority Projects shall have a validity of two (2) years. However, Agencies/LGUs may propose revisions to the approved list during its validity period.

3) Publication of Invitation

Proposed Addition: The publication of invitation or call for comparative proposals shall not be made until after the Head of Agency/LGU has approved the bid/tender documents, including the draft contract.

4) Approving Authority for the contract

Proposed Addition: The Head of Agency/LGU shall be the approving authority and signatory for the contract. Notwithstanding, the policy of final approval by the NEDA Board of the signed contract shall implemented through the issuance of NEDA Board Resolutions.

5) Contract Variations

Proposed Addition: Variations in the contract during its implementation shall be approved by the Head of Agency/LGU, in accordance with the conditions enumerated in the IRR and consistent with the general procurement law (RA 9184).

6) Protest Fee

Proposed Amendment: The protest fee charged for an appeal to be reduced from ½ of 1% to $^{1}/_{10}{}^{th}$ of 1% of the project cost.

7) Timelines

Proposed Amendment: The timelines in the processing/evaluation of BOT proposals to be reduced from 295 to 277 days.

8) Substitution/Withdrawal of a member of a Consortium/Joint Venture

Proposed Addition: Changes/substitution in the ownership and composition of a consortium/JV before the final approval of the contract shall be subject to the approval of the Head of Agency/LGU. However, changes/substitution made during contract implementation shall be subject to NEDA Board approval.

9) Government to shoulder the differential

Proposed Addition: If the final approval of the franchise by the Regulator will result in a decrease in the amount of tolls, fees, rentals or charges stipulated in the contract, the government shall shoulder and pay to the project proponent the difference between the amount stipulated in the contract and the amount approved the Regulator. However, it must be clarified that this will not apply to unsolicited proposals wherein the provision of direct government subsidy is prohibited.

Other matters that need to be added, clarified and/or amended are as follows:

10) Unsolicited Proposal

- Period of Comparative Bids Preparation: Only 60 days are given to comparative proponents. More time (say 140 to 180 days depending on the complexity of the project) should be given to comparative proponents to realize competitive bidding.

- Information Disclosure: Agency should select information to be disclosed to comparative proponents, particularly technical information and traffic demand information. There should be guidelines on information disclosure.

- New ROW Acquisition: It is not clearly defined whether New ROW Acquisition by the Government is regarded as the Government's direct subsidy or equity.

4.5.2 RA 7718 AND EO 423 (2005)

In addition to the BOT Law (RA 7718), EO 423 (series of 2005) allows the private entities to joint venture with the Government for implementation of infrastructure projects. Guidelines and procedures for entering into joint venture (JV) agreements between the Government and the private entities were prepared and issued by NEDA in April 2008.

Major issues of EO 423 are as follows;

- No NEDA and ICC review and approval is required.
- Head of Agency has authority to approve the JV agreement regardless of project cost.
- Only discloses to other agencies; the Department of Finance (DOF) and/or the Department of Budget and Management (DBM), if JV requires the Government subsidy, or Government guarantee.
- No effective competition – comparative proposal (or challenger) is given only 30 days to match the unsolicited proposal.

It is recommended to adopt one of two (2) options;

Option 1 : EO 423 (series 2005) be abolished and integrated into BOT Law (RA 7718)

Option 2 : Amendment of Guidelines and Procedures

(a) The project should be approved by NEDA ICC or NEDA Board as the case may be

(b) Ceiling of project cost should be specified. Only small to medium size projects should be allowed to be implemented under this E.O.

(c) Enough time (say 120 – 150 days) should be given to challengers for them to prepare comparative proposal.

4.5.3 Creation of PPP Law

Present RA 7718 is specific to one type of PPP modalities. RA 7718 needs to be modified and converted to PPP Law, wherein wide range of PPP modalities should be included to improve application of a Law and flexible to all kinds of PPP modalities. PPP Law should also specify the range of the Government responsibilities, particularly on the Government financial supports.

CHAPTER 5

PPP PROJECT CYCLE AND BOTTLENECKS IN EACH CYCLE

CHAPTER 5
PPP PROJECT CYCLE AND BOTTLENECKS IN EACH CYCLE

5.1 PPP PROJECT CYCLE

PPP project cycle was classified as follows;

PPP PROJECT CYCLE

Stage – 1	:	Basic Plan/Master Plan/Project Identification Stage
Stage – 2	:	Business Case/Feasibility Study Stage
Stage – 3	:	Project Approval Stage
Stage – 4	:	ROW Acquisition/Resettlement Stage (Note – 1)
Stage – 5	:	Tender Stage
Stage – 6	:	Contracting Stage
Stage – 7	:	Toll Operation Agreement Stage
Stage – 8	:	Fund Procurement/Preparation Stage
Stage – 9	:	Detailed Design Stage
Stage – 10	:	Construction Stage
Stage – 11	:	Operation and Maintenance Stage
Stage – 12	:	End of Contract and Facility Transfer Stage
Note – 1	:	Under conventional government projects, ROW acquisition is undertaken after the detailed design completed. For PPP projects, it is recommended to start ROW acquisition soon after the project is approved, and preferably completed before the bidding. To achieve this, accuracy of engineering study during the feasibility study must be improved.

5.2 IDENTIFICATION OF BOTTLENECKS AND RECOMMENDATIONS

Intensive interview surveys to the government officials and the private sector were undertaken to identify bottlenecks in the process of PPP project implementation. Experiences of past project implementation were traced for two types of approaches, i.e. 1) Solicited Proposal under the BOT Law, and 2) Joint Venture Approach. Identified bottlenecks are presented in **Annex 5.2-1**.

Above results were summarized on the four (4) items, namely 1) Current Practice, 2) Issues and Bottlenecks, 3) Recommended Measures, and 4) Legal Framework, and presented hereunder.

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 1] **Basic Plan/ Master Plan/ Project Identification Stage**	• Luzon Expressway System Study (LESS), 1990, DPWH/PNCC → SLEx Extension, TPLEx, STAR • JICA – assisted "Metro Manila Expressway System (MMUES)", 1993 → Skyway, N-S Connector Road • JICA – assisted "Metro Manila Urban Transportation Integration Study (MMUTIS)", 1999 • JICA – assisted "Development of Public-Private Partnership Technique for Metro Manila Urban Expressway Network (MMUEN)", 2003 • JICA – assisted "High Standard Highway (HSH) Network Development Plan", 2010	• Master Plans were not updated. • Various GOCCs and private investors proposed various projects. Many of them were not passed through DPWH. • Private investors proposed and submitted unsolicited proposals to franchise owners for improvement/ extension of franchise tollways, but involvement of DPWH was minimal, limited to technical evaluation. • DPWH could not take the lead to evaluate various proposals due to incomplete traffic data, lack of financial evaluation capability, and prioritization criteria, etc. • Existing tollways are independently functioning and network is not interconnected yet. • Project configuration given to private investors is developed by stages or components due to financial constraints.	• HSH Master Plan which shows tollway projects with priority should be fully utilized as guidance for project implementation. • This master plan should be updated regularly every 5 years. • Project implementation Plan Report of the priority tollway projects identified in the HSH Master Plan should be prepared by the implementing agency including the processing of all necessary project approvals, endorsements, certification • Priority projects recommended in the HSH Master Plan should be included in the next MTPDP, MTRDP, MTPIP, and CIIP, thus the Government's firm commitments for priority projects are expressed, at the same time, unsolicited proposals can be controlled. • DPWH should be the sole entry point for highway/expressway project proposals. • Government should define clearly the implementing arrangement showing components for public and private implementation. • Project components included in the franchise given to private investors should have time frame for its implementation. • Project components not implemented by the private sector should be subjected to F/S for the preparation of its Project Implementation Program under PPP. • DPWH should prepare saleable PPP project packages (or projects attractive to the private sector). • DPWH's planning capacity and organization for PPP projects should be strengthened. Proposed Public-Private Infrastructure Partnership Office (PPIPO) should be organized as soon as possible.	• DPWH mandate EO 124 (1997) EO 686 (2007) • BCDA's mandate RA 727 (1992) • PEA (now PRA)'s mandate PD 1084 (1977) PD 1894 (1983) • BOT Law RA 6957 (1990) RA 7718 (1994) • TRB's mandate PD 1112 (1977) EO 686 (2007)

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 2] **Business Case/ Feasibility Study Stage**	• DPWH usually undertakes feasibility studies by administration (in-house) or by out-sourcing. • In case of unsolicited proposal, the private sector prepares its own business case or feasibility study. • Foreign funding for F/S is sought. F/S by local fund nearly implemented. • F/S with foreign funding provides private investors higher confidence in studying the attractiveness of a BOT project. • F/S with local funding usually lack the necessary level of details present on F/S with foreign funding mainly due to budget problems.	• F/S by DPWH with foreign funding are usually complete with all the necessary details and approvals including the Draft Tender Documents and Toll Operation Agreement but lacks the important NEDA/ICC approval for PPP Implementation. The NEDA/ICC approval clearly defines the public and private sector implementation arrangement. Based on this approval, the government should secure the implementation of the private sector components through foreign loans or using local funds. • Level of feasibility studies by DPWH in many cases: - Lacks a business case study to select appropriate PPP modality and realistic financial evaluation, reflecting PPP modality. - Lacks geo-technical investigation and topographic surveys to estimate appropriate project cost and to determine ROW limits. - Incomplete alternative alignment study to select an optimum alignment. - Lacks comprehensive traffic surveys and demand forecast. - Lacks risk assessment and allocation of risk to the public and private sectors. - Lacks comprehensive EIA study to obtain ECC. - Lacks consultation meetings with stakeholders, particularly LGUs and affected people. - Lacks preparation of draft tender documents and toll operation agreements. - Study period was too short, and provided fund is too limited • Many unsolicited proposals are difficult to evaluate and takes a long period of time to reach agreement due to: - Scope and implementation plan not adequately defined. - Level of improvements over design especially at entry/exit points. - Project cost not properly supported be appropriate level of engineering surveys/investigations. - Recommended alignment not subjected by public discussion and hearings from all stakeholders especially affected LGUs and property owners. - Optimistic traffic forecast. - High project cost and high tolls. • DPWH's capacity and organization for this kind of study is not sufficient. • Local consultants are not necessarily experienced and capable to undertake this kind of study. • Many unsolicited proposals are marked by inadequately defined scope, overdesign, optimistic traffic forecasts, high costs and high tolls.	• Government should be more pro-active in identifying PPP projects, conducting business case/FS, and developing a pipeline of projects ready for tendering. • More time and fund should be spent for this stage. • DPWH allotted a budget for business case study in 2010. This should be continued for succeeding years. • Standard TOR for a business case and feasibility studies should be prepared. • DPWH's capacity and organization should be strengthened. Regular training program should be prepared and implemented. Preferably staff of local consultants should also be invited to a training program. • DPWH to prepare Project Implementation Plan Report clearly defining the PPP modality and secure NEDA/ICC approvals prior to bidding. • Close consultation with all stakeholders – public and private - is needed in under-taking the business case/FS to address their concerns.	

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 3] **Project Approval Stage**	• DPWH prepares a Project Implementation Plan Report (PIPR) based on a feasibility study and submits it to NEDA. • NEDA makes comments, suggestions, and asks for clarifications on the PIRR. • NEDA approves/disapproves the project after all requirements have been compiled with by the DPWH. • Under amended BOT Law for national projects; - Projects costing up to Php 300 million shall be submitted to ICC for approval. - Projects costing more than Php 300 million shall be submitted to the NEDA Board for approval upon the recommendation of ICC. - Regardless of amount, negotiated projects shall be submitted to the NEDA Board for approval upon recommendation by ICC. • NEDA prepared ICC Project Evaluation Procedure and Guidelines.	• Lengthy time is required until the project is approved by NEDA Board. • Complete documents are often not submitted by the Agency. • NEDA's policy is that projects should be so prepared that maximum participation of a private sector be achieved. The Agency is sometimes required to do a re-study in line with the above policy.	• The Agency should submit complete documents required by NEDA. To meet this requirement, the Agency needs to undertake detailed business case study and feasibility study. • NEDA should undertake seminars/trainings on "ICC Project Evaluation Procedure and Guidelines."	

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

[STAGE – 4]

ROW Acquisition/ Resettlement Stage

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Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
• ROW acquisition of BOT projects is implemented by PMO-IROW, or Regional Offices. • Preparation of IROW plan and parcellary plan is usually out-sourced or done by private sector for BOT projects. • Procedure is firstly to ask for donation, then negotiated sale and if this still failed, go to expropriation proceedings. • Land value is based on the BIR zonal valuation for the first offer. • Land value for the second offer is based on Provincial/City Appraisal Committee estimate and Land Bank valuation, whichever is lowest. The price of the second offer is close to the market value. • Compensation for improvement is based on replacement cost. • Other compensation such as disturbance compensation, financial assistance to tenants, business establishments losing income, renters, etc., are assessed and estimated on a case-to-case basis.	• ROW acquisition delays due to the following; - Preparation of IROW plan and parcellary plan takes long time due to inaccurate land registration. Survey results are often inaccurate. - Lack of logistics such as insufficient vehicles and computers for dialogue with owners and documentation. - Cumbersome documentation. - Resistance by some owners and difficulty in relocating informal settlers. - Disagreement on land valuation and compensation costs. - Prolonged negotiation. - Funding difficulty. - Zonal valuation is lower than market price in several cases. - Expropriation through courts takes lengthy time. - Most expropriation cases are hampered by incomplete documents submitted by land owners. • Delay in ROW acquisition makes it difficult for the private sector to reach financial closure. Usually banks require 100% completed ROW acquisition before initial loan drawdown. • Delay in ROW acquisition seriously affects construction schedule. • BIR does not always update BIR zonal valuation. • DPWH does not update the basis for improvement cost. • IROW Procedural Manual has not been updated. • More DPWH staff needs trainings on ROW acquisition.	• Soon after NEDA Board approves the project, ROW acquisition plan and parcellary plan should be prepared and ROW acquisition should be started. • Land value should be based on Market Price. • Feasibility study should define ROW limits and concerned LGUs should freeze development and prevent informal settlers within the proposed ROW. • Preparation of IROW plan and parcellary plan should be out-sourced and budget for this should be allocated as a part of the project cost. • Enough logistics support should be included in the project cost. • IROW Procedural Manual should be updated and more people should be trained on ROW acquisition.	• RA 7279 • RA 8974 (new ROW Law) • IRR of RA 8974 • DPWH Department Order No. 327, 2003 • DPWH LARRIPP, 3rd Edition, 2007

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

[STAGE – 5]

Tender Stage

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Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
• Pre-qualification, Bids and Awards Committee (PBAC) for PPP projects organized in DPWH. • Pre-qualification, bids and awards procedure and rules and regulations are specified in the amended BOT Law and its Implementing Rules and Regulations (IRR). • For public projects, RA 9184, 2002 is followed.	• Tender stage requires lengthy time. But negotiated unsolicited joint venture (JV) proposals take longer to finalize because of many disputes, offers, and counter-offers. • Government agencies have not always conformed to the prescribed processes: - The project was not properly advertised worldwide. - Bidding documents were not complete. - Clearances, issuances and approvals required from agencies, LGUs, etc., were not secured before bidding. - ROW acquisition was not started or completed before bidding. - All available data such as traffic, geotechnical, assumed toll rate, revenue estimate, civil works quantities, required level of O & M, etc. were not disclosed to the interested bidders. - Risks and risk allocation were not clearly stated in the documents. • In past/current JV projects, there was no competition or transparency to ascertain best value-for- money.	• PPP projects should generally be undertaken through public bidding. Unsolicited proposals should be discouraged. • Standard pre-qualification and tender documents for each type of PPP modality should be prepared. • All available information obtained through the business case and feasibility studies should be disclosed to interested bidders. • Risks management and risk allocation should be clearly specified in the contract. • Interested private investors should review and study all available data on traffic/ engineering surveys/ investigation, proposed level of improvements, construction cost, suggested implementation schedule and conduct supplemental surveys/ studies if necessary.	<u>PPP Projects</u> • RA 7718 (1994) and its Implementing Rules and Regulations <u>Public Projects</u> • RA 9184 (2002) <u>ODA Projects</u> • ODA agency's guidance

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

[STAGE – 6]

Contracting Stage

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Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
<u>Contracting Parties</u> • Contract between DPWH/TRB and PPP Company ⇨ Financing, design and construction + (ROW Acquisition cost; option) (Toll Concession Agreement: **TCA**) ⇨ Contract to be approved by NEDA Board. • Contract between TRB and PPP Company ⇨ Operation & Maintenance (Toll Operation Agreement: **TOA**) • TRB issues Toll Operation Certificate (**TOC**) to the concessionaire. • Cost for hiring Independent Design Checker (IDC) and Independent Certification Engineer (ICE) is included in the contract.	• Review of TCA by TRB usually takes lengthy time (6~12 months), even though it is a member of DPWH Technical Working Group and a member of PBAC. TRB's concerns were toll adjustment formula and O & M aspects. • Toll rate specified in TCA is not always approved by TRB. • Contracting for JV and unsolicited proposals was lengthy and complicated because the contract terms had to be negotiated, e.g, risk allocation, toll rates and adjustments, etc.	• E.O. 686 (2007) should be followed with respect to responsibilities of DPWH and TRB. • Standard or pro-forma contracts should be adopted and made part of the tender documents.	• E. O. 686 (2007) Delineation of responsibilities of DPWH and TRB.

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 7] **Toll Operation Agreement Stage** .	• Toll Operation Agreement (TOA) is incorporated as a component of Toll Concession Agreement (TCA). • TOA covers O & M aspects, toll rates, and toll adjustment provision. TOA is signed between TRB and PPP Company. • Toll Operation Permit (TOP) is issued by TRB. This applies to a project consisting of several segments constructed by stage, where it is desired to operate a completed segment. The TOP for a segment is made effective upon issuance of Certificate of Acceptance of completed segment. • Toll Operation Certificate (TOC) is issued by TRB, authorizing the operation of the entire project. The TOC is made effective upon issuance of the Certificate of Acceptance of the completed construction.	• Review by TRB of toll adjustment formula, and other O & M aspects took considerable time. • For unsolicited JV projects, there was no prescribed standard TOA. Thus, numerous requirements of government and lenders resulted in many revisions of the TOA – e.g., material adverse government actions, lenders' step-in rights, toll adjustments, risk allocation, etc.	• The Government should ensure automatic grant by TRB of Toll Operation Certificate. • Some private sector entities recommend the following delineation between DPWH and TRB, generally following EO 686 (2007); - DPWH: handles technical aspects including O & M. - TRB: automatically approves the bid toll rates and issues TOC. • Standard TOA should be adopted as part of the tender documents.	

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 8] **Fund Procurement/ Preparation Stage**	• Government funding is authorized under GAA. • The private sector provides necessary fund by itself (equity and debt).	• Government - Budget constraints and delays in fund release. - Difficult to cope with cost overrun • Private - Delay in attaining financial closure due to difficulties in meeting lenders' requirement - Complete ROW acquisition, adequate government financial support approved toll rates and adjustment formulae to cover costs, etc. - Unforeseen changes requiring additional costs due mainly to additional facilities and LGU fees.	• Government - Needs to exercise value engineering to cut down costs. - Needs (a) provision of adequate annual budgets covering ROW and government financial support for construction per bidding and contract terms, including reasonable cost contingencies, and (b) timely release of funds. - Needs to tap ODA, where appropriate, to fund part of the government portion of PPP projects, to ease the fiscal pressure. • Private - Close coordination with LGUs to avoid additional requirements of facilities. - Make clear in the contract that is responsible for LGUs' fees, or such fees are exempted.	• General Appropriations Act (GAA) • Respective Toll Concession Agreement (TCA)

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

[STAGE – 9]

Detailed Design Stage

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Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
• Government-responsible section - The Government determines project configuration and levels of improvement including Private-responsible section. - Detailed design is prepared by the Government usually through outsourcing. • Private-responsible section - The private sector prepares the detailed design. - An Independent Design Checker (IDC) employed by the Private Sector checks the detailed design and reports to the Agency the result of checking, progress of work, etc.	• Lacks in proper coordination with LGUs, particularly on road alignment, interchange location, crossing facilities, environmental impact, etc. • Lacks in proper coordination with utility companies for relocation/protection of public utilities. • Design of 2-lane expressway without safety provisions such as overtaking and climbing lanes at steep gradients causing serious traffic accidents.	• DPWH, thru the FS, should define the ROW limits and set performance- type design standards and parameters to guide the detailed design to be done by the private proponent. The DPWH approval of the proponent's detailed design should not diminish the latter's responsibility for the integrity of the design. • Selection of interchange type and design should balance cost of ROW and functionality. • IDC needs to be employed by the Government. • Proper coordination with LGUs and utility companies shall be exercised. • Value engineering should be exercised. • 2-lane expressway should be so designed to reduce traffic accidents. Overtaking using opposite direction lane should be prohibited, but overtaking lane should be provided at strategic sections. • Bureau of Design (BOD) should update design standards for expressways.	• EO 124, 2007

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 10] **Construction Stage** .	• Government - Employs contractor(s) selected by competitive bidding. • Private - BOT company either undertakes construction by itself or engage contractor(s) - An Independent Certificate Engineer (ICE) is employed who works for the Government and supervises the construction works.	• Delayed construction due to delayed delivery of ROW and financial closure. • Not very clear in the contract who shoulders cost of variations during construction, such as modified or additional crossings. • Needs more strict quality control and schedule control. • Not so much attention is paid to the following: - Safety to public, workers, and travelers - Night work in the residential areas - Direct access to existing establishments - Traffic re-routing to mitigate traffic congestion. • Sometimes encounters unexpected underground public utilities.	• Refer to Stage-4 for ROW acquisition. • Clear provisions in the contract should be prepared for the responsibility of cost due to variation of design. • Strict provisions in the contract should be prepared for the safety, traffic management, accessibility, etc. • Detailed investigation during a feasibility study stage for underground public utilities should be undertaken. Provisions for treatment of unexpected underground utilities should be prepared. • Construction milestones should be strictly enforced, and defaults should be promptly called in case of failure to complete work stages on time.	

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

[STAGE – 11]

Operation/ Maintenance (O & M) Stage

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Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
• TRB assesses and evaluates the completeness of the constructed facility for toll road operation. • TRB undertakes the monitoring and supervision of O & M. • Concessionaire undertakes O & M. • Agreed toll fee adjustment formula is specified in the Concession Agreement. • O & M is governed by the provisions of Toll Concession Agreement (TCA) and standards set by DPWH. O & M is also based on the O & M Manual prepared by the concessionaire and approved by DPWH.	• Stage-2 of STAR is being operated under 2-lane (1-lane for each direction), and experiencing high rate of traffic accidents. • Stage-1 of STAR required correction of STAR facilities such as substandard riding surface which required overlay, correction of broken fences, etc., before transferring the facility to the private sector. • Approval of toll fee and adjustment of toll fee is delayed and sometimes toll fee is changed by TRB. • In case of stage construction, time frame for the second stage construction is not always followed due to delayed ROW acquisition and financial closure, among others. • Traffic on STAR has been constrained because the missing expressway link (Calamba - Sto. Tomas) has not been built on time by the government/another concessionaire, as per TCA.	• Two-lane expressway should be carefully designed to minimize traffic accidents. • Construction of the Government segment under the Segment Dividing Scheme must be undertaken satisfying required specifications and standards. • Delineation of responsibilities between DPWH and TRB should be respected and followed in accordance with E.O. 686, 2007. • Approval of toll fee and adjustment of toll fee should be promptly done in accordance with the Concession Agreement. • For stage construction contract, conditions to start the second stage construction should be strictly specified and strictly enforced.	• E.O. 686 (2007) Delineation of responsibilities of DPWH and TRB. • Respective Toll Concession Agreement.

IDENTIFIED ISSUES AND BOTTLENECKS IN THE PROCESS OF PPP PROJECTS

	Current Practice	Issues and Bottlenecks	Recommended Measures	Legal Framework
[STAGE – 12] **End of Contract and Facility Transfer Stage**	• Franchise period of 30 years was given to PNCC from 1977 to 2007, thus PNCC lost its franchise in 2007. • Before expiration of PNCC franchise, PNCC entered into JV with the investors which undertook rehabilitation, widening and some improvement. Investors were given another 30 years concession period thru an administrative franchise (Supplemental Toll Operations Agreement or STOA) granted by TRB. • Thus, no facility has been turned over to the Government.	• Most of current Concession Agreements will end sometime in early 2030s. • The Government has no basic plan what to do after facilities are transferred to the Government. • Some sectors, including members of Congress, are challenging in court the validity of the TRB issuance of an administrative franchise (STOA) to PNCC/JV after PNCC's legislative franchise expired in 2007.	• Clarify status of PNCC franchise, preferably through legislation. • Prepare appropriate plans for hand-over of facilities at the end of the concession period, and arrangements for subsequent O&M.	

5.3 ISSUES ON LEGAL FRAMEWORK

Issues on legal framework were discussed in Section 4.5 of Chapter 4, and summarized as follows:

1) Amendment of IRR of BOT Law (RA 7718)

2) Some conflicts between RA 7718 and EO 423 (Series of 2005)

3) Creation of PPP Law

5.4 ISSUES ON INSTITUTIONAL FRAMEWORK

Historically, planning and implementation of BOT projects were led by the private sector's initiative. Whereas, the Government is now discouraging the unsolicited proposal from the private sector. Thus, the concerned Agencies are required to be more pro-active and take a leadership for PPP projects development and implementation. DPWH so far undertook only two (2) PPP projects, thus, DPWH staff suffers lack of experiences and capacity to promote PPP projects.

Capacity development program and organizational strengthening are discussed in Chapter 11.

5.5 PPP FUND CREATION

Huge fund is required to realize proposed PPP projects by both the Government side and the private sector side. If PPP fund is created, the Government side will have ready fund for PPP project implementation, and the private sector side will be able to avail of a loan with lower interest rate and with longer repayment period which will be surely increase financial viability of a PPP project. Therefore, it is worthwhile for the Government to study creation of PPP fund. PPP fund creation is discussed in Chapter 9.

5.6 DEVELOPMENT OF VARIOUS STANDARDS AND MANUALS

As pointed out in Section 5.2, various standards and manuals need to be developed and know-how on PPP projects planning and implementation should be compiled and utilized as ready references.