

FIGURE 30.5-2 (2/3) PROPOSED 2030 HSH NETWORK: METRO DAVAO

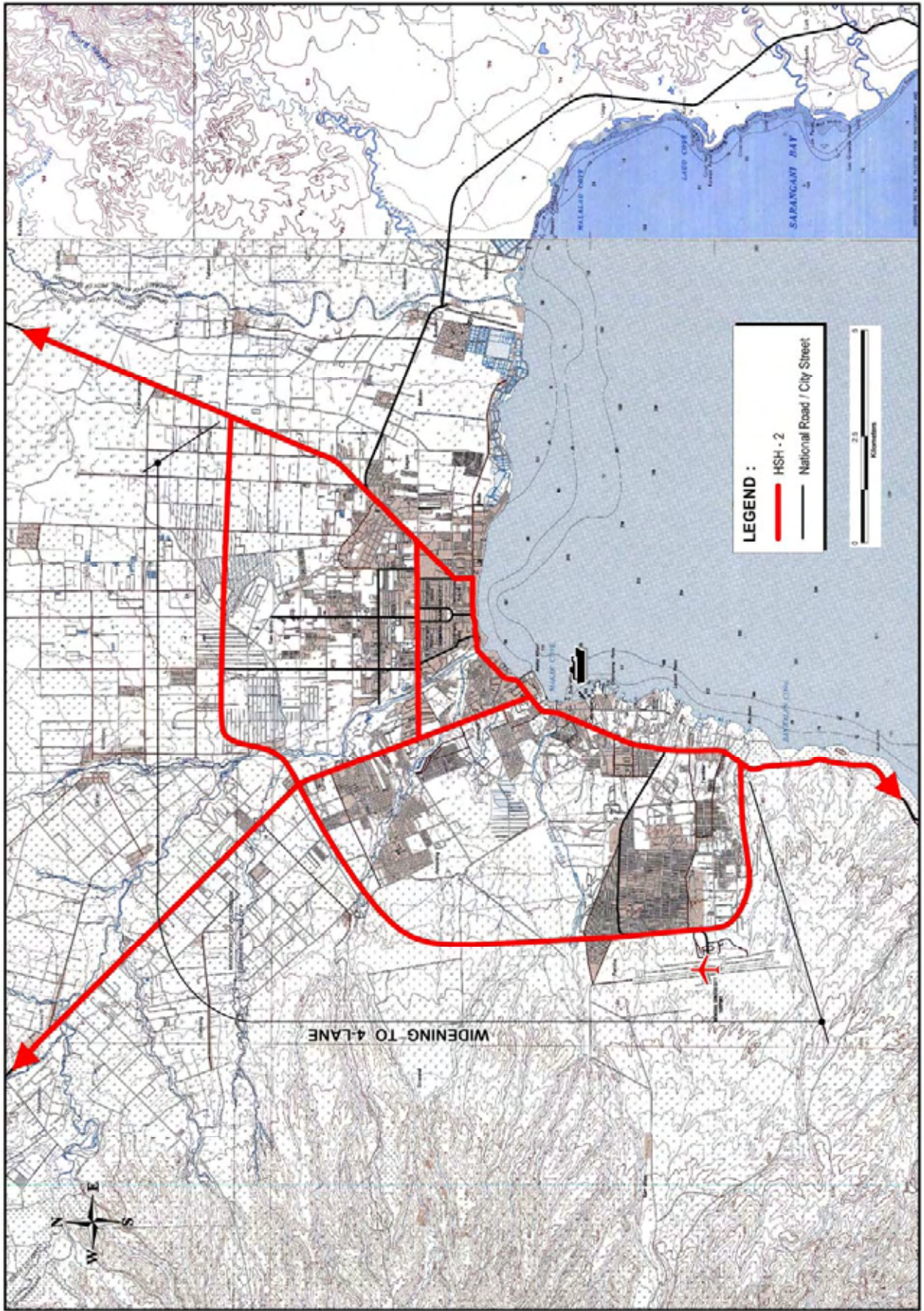


FIGURE 30.5-2 (3/3) PROPOSED 2030 HSH NETWORK: METRO GENERAL SANTOS

30.6 TRAFFIC ASSIGNMENTS ON 2020 NETWORK AND 2030 NETWORK

(1) Traffic Assignment Result

In this section, the result of traffic assignment that shows the estimated traffic volumes on each road section is displayed for the year of both 2020 and 2030. **Figures 30.6-1** shows the result of the Do-nothing case and proposed network case in 2020 and **Figures 30.6-2** shows the result of that in 2030.

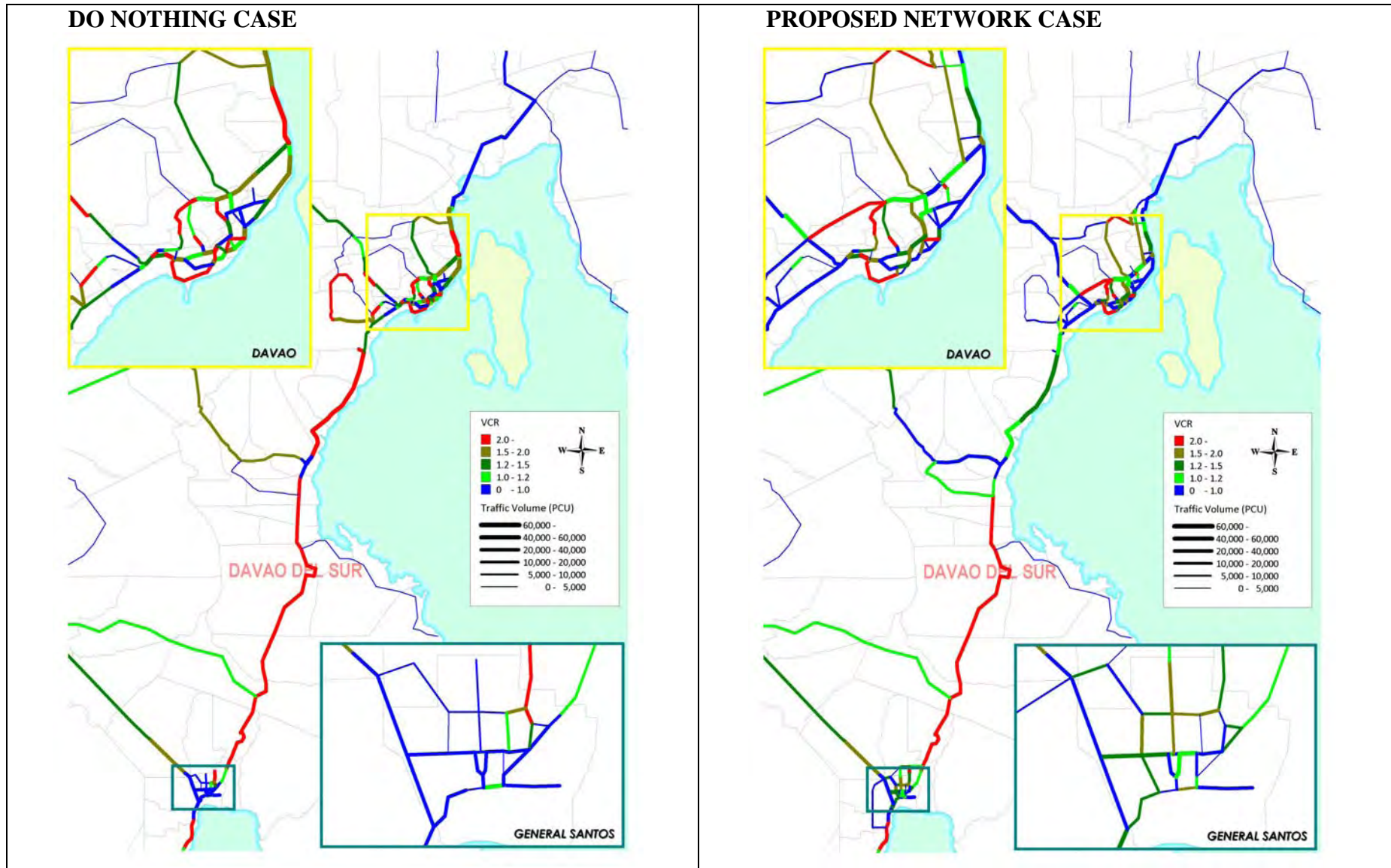


FIGURE 30.6-1 TRAFFIC ASSIGNMENT RESULT OF “DO NOTHING ” CASE AND “PROPOSED” CASE IN 2020

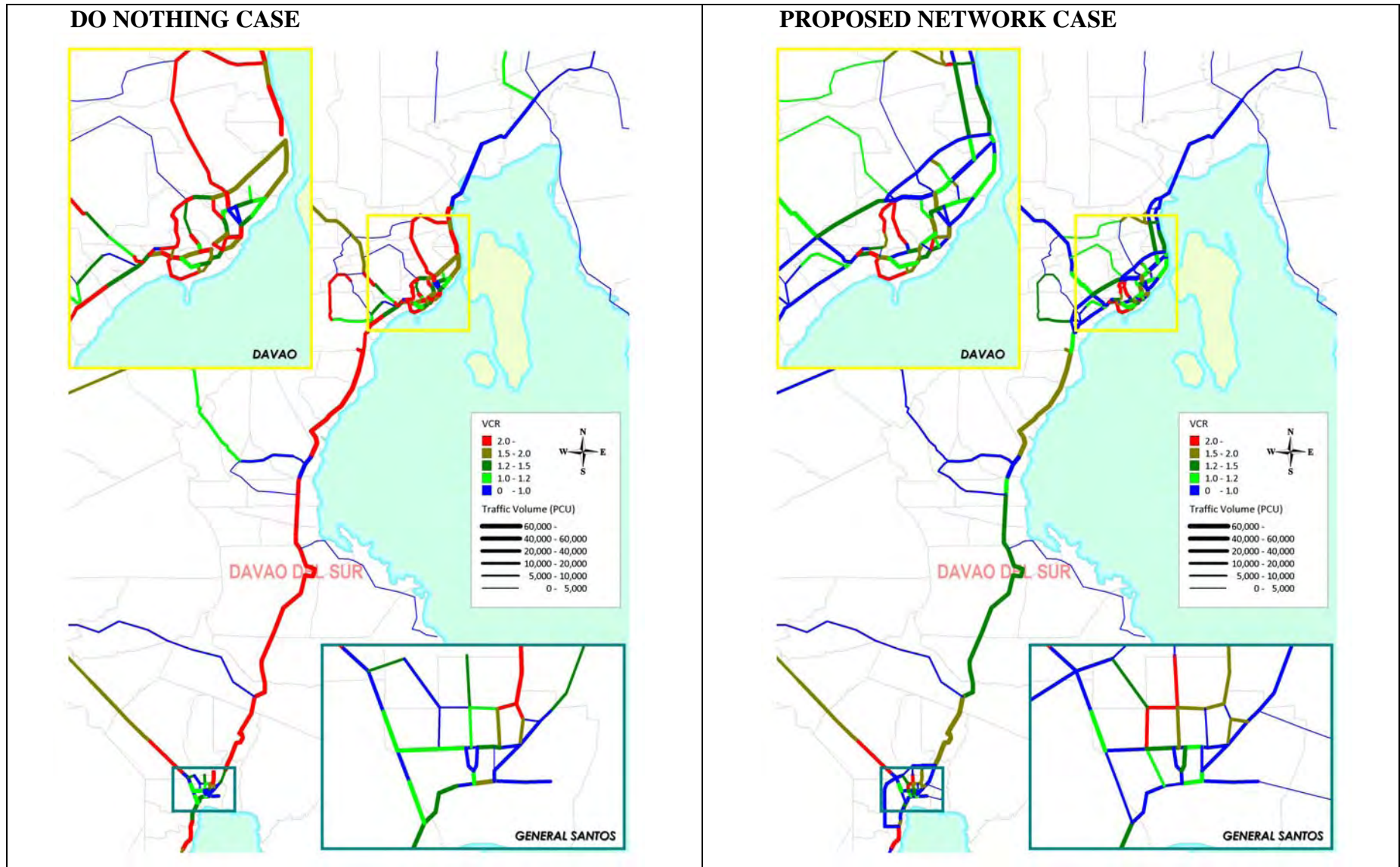


FIGURE 30.6-1 TRAFFIC ASSIGNMENT RESULT OF “DO NOTHING ” CASE AND “PROPOSED” CASE IN 2030

30.7 IMPACT OF PROPOSED HSH PROJECTS

An impact of the proposed HSH network plan is analyzed by comparing network performance indicators of “Do-Nothing” case and “Proposed” case, in this section.

Table 30.7-1 summarizes the network performance indicators by traffic assignment case. The performance indicators of highway network include daily travel distance (vehicle*km), daily travel time (vehicle*hour), average volume capacity ratio, average travel speed. The following formulas describe the definition of each indicator.

$$\text{Total travel distance: } TD = \sum_k V_k \cdot l_k$$

$$\text{Total travel time: } TT = \sum_k V_k \cdot \frac{l_k}{s_k}$$

$$\text{Volume capacity ratio: } VCR = \frac{TD}{\sum_k Q_k \cdot l_k}$$

$$\text{Average travel speed: } TS = \frac{TD}{TT}$$

Where, V_k : Assigned traffic volume on link k

l_k : Length of link k

s_k : Average travel speed of assigned traffic on link k

Q_k : Capacity of link k

The impact of the proposed HSH network plan can be summarized as follows:

- The total travel distance of “Proposed” case indicates 17.4 million PCU*km. By comparing this value with that of “Do-Nothing” case, travel distance is shortened by 5%. This implicates that 5% of wasteful detour travel may be improved.
- The impact on the improvement of travel time is more remarkable than travel distance. It would be improved by 20% in 2020, and 46% in 2030 (690 thousand for “Proposed” case and 1,280 thousand for “Do-Nothing” case)
- Average travel speed indicates the improvement of about 94%.

TABLE 30.7-1 NETWORK PERFORMANCE BY ASSIGNMENT CASE

Item	2020		2030	
	Do-Nothing Case	Proposed Case	Do-Nothing Case	Proposed Case
Total Travel Distance (1000 PCU*km)	11,937	12,629	16,640	17,426
Total Travel Time (1000 PCU*hour)	707	568	1,280	690
Average Volume Capacity Ratio (volume/capacity)	1.16	1.01	1.61	1.02
Average Travel Speed (km/h)	16.9	22.2	13.0	25.3

PART V

RECOMMENDATIONS

CHAPTER 31

STRENGTHENING OF DPWH FOR PPP PROJECT IMPLEMENTATION

CHAPTER 31

STRENGTHENING OF DPWH FOR PPP PROJECT IMPLEMENTATION

31.1 THE NEED TO ENHANCE THE DPWH CAPABILITY FOR PPP

There is a strong need to improve the capability of the Department of Public Works and Highways (DPWH) to effectively promote and manage Public-Private Partnership (PPP)/Build-Operate-Transfer (BOT) projects, particularly for expressways, for the following reasons;

- 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.

31.2 COMPONENTS OF PPP CAPACITY DEVELOPMENT

The capacity development program for PPP in DPWH has two basic components, as follows:

- Organizational restructuring
- Skills training

Organizational restructuring refers to modifications and improvements in the functions and staffing of DPWH units to enable them to more effectively carry out PPP projects. Skills training refers to the development of management systems and staff capacity in DPWH, through lectures and workshops with case studies, on-the-job training (OJT), and use of software, to make the Department better perform PPP activities.

DPWH should develop its organizational and skills capability to handle all major aspects of PPP expressway development and management – policy formulation, network planning, project preparation, project implementation, and project operations.

31.3 BASES OF PROPOSED PPP CAPACITY DEVELOPMENT AT DPWH

The capacity development program presented in this Study has been prepared with due consideration of the following main factors;

- Self-assessment survey among DPWH officials to determine their needs for organizational strengthening and training so as to enhance the Department capability in PPP project development and management.
- Comment and suggestions of private BOT/PPP firms to make PPP more attractive and effective, as discussed during the interviews with them in June 2009 and as summarized in Chapter 6 of this Report.
- Capacity requirements to efficiently undertake the basic steps in the PPP project cycle as discussed in Chapter 30 of this Report.
- Previous studies and international experiences in PPP development as discussed in different parts of this Study.
- Existing DPWH organization and functions and its Rationalization Plan under Executive Order No. 366, series of 2004.

31.4 SURVEY OF ORGANIZATIONAL IMPROVEMENT AND TRAINING NEEDS

This Study conducted a self-assessment survey in March 2010 among DPWH officials concerned to determine their needs for the improvement of their organization and skills in order to raise their capacity to promote and implement PPP projects. The survey form is shown in Annex A. The survey asked the officials to indicate the following information:

A. Organizational Strengthening

- The existing functions and staff of their organizational units that pertain to PPP development and implementation.
- Suggested changes in their functions and staffing to improve their capacity for PPP development and implementation.

B. Skills Training

- Their perceived priority for capacity development in the different aspects or topics for PPP development and implementation.
- Their present state of knowledge or competence in each topic – i.e., whether it is adequate or if further training is needed.
- If further training is needed:
 - a. The desired training level – i.e., whether appreciation, refresher, or working knowledge is needed.
 - b. The desired training mode – i.e., whether the training is to be done through lectures and workshops, OJT, or software application.

With regard to the needs for skills training, the survey covered seven main training topics or areas, with 32 sub-topics, as shown in **Table 31.4-1**, with details in Annex 31.1.

TABLE 31.4-1 NUMBER OF TRAINING TOPICS AND SUB-TOPICS

No.	Main Topic	No. of Sub-Topics
1	PPP Policy Framework	1
2	Project Identification	2
3	Project Business Case	8
4	Project Feasibility Study	11
5	Project Procurement	3
6	Project Implementation	4
7	Project Operation	2
	Total	32

The training topics in the survey have essentially been aligned with the steps in the PPP project cycle as presented in Chapter 18 of this Report.

A total of 19 DPWH officials concerned with PPP responded to the survey. They include personnel from the Project Management Office for BOT (PMO-BOT), Planning Service (PS), PMO-Feasibility Studies (FS), Bureau of Design (BOD), Environmental and Social Services Office (ESSO), PMO-Infrastructure Right-of-Way and Resettlement (IROWR), and Procurement Office (PO).

31.5 COMMENTS AND SUGGESTIONS OF PRIVATE BOT/PPP FIRMS

The proposed PPP capacity building program for DPWH has also considered the comments and recommendations of the private sector, particularly those expressed by private firms involved in the development and operation of BOT/PPP toll expressways, as these call for corresponding improvements in DPWH organizational and skills capability. These comments and recommendations, based on the interviews with the firms in June 2009, are summarized below.

(1) Regulation

- The delineation of DPWH-TRB responsibilities under EO 686, series of 2007, is in order, whereby DPWH shall handle the technical aspects of toll projects - design, contracting, ROW acquisition, supervision of construction and O&M.- while TRB shall set the toll rates and issue the Toll Operations Certificate (TOC)
- DPWH should have a focused full-time group for BOT/PPP to handle all aspects – technical, financial, environmental, legal, and right-of-way (ROW).

(2) PPP Modality

- Bidding under the BOT Law is an acceptable modality, preferably using the Build-Transfer-Operate (BTO) scheme, with defined Government Financial Support (GFS) and basic design parameters. The bid could be in terms of proposed toll rate or GFS.
- All government approvals should be secured before bidding – toll rate caps and adjustment formulae by the TRB, Environmental Clearance Certificate (ECC) from the Department of Environment and Natural Resources (DENR), development permits from LGUs, etc.

(3) **Financing/Government Financial Support (GFS)**

- To make the project financially viable at affordable toll rates, the government shall bear the ROW acquisition cost and provide GFS to fund up to 50 percent of the construction cost.
- To facilitate the proponent's financial closure, the government should undertake the feasibility study (FS) and complete the ROW acquisition before the bidding, and assure implementation of toll rates and adjustment formulae.

(4) **ROW Acquisition**

- The FS done by the government should define the ROW, and DPWH should complete the ROW acquisition before the bidding. Once the ROW is defined, the government should freeze developments therein.
- DPWH should organize and train a full time ROW group to handle the planning, implementation and monitoring of ROW acquisition.

(5) **Feasibility Study (FS)**

- The government should undertake the FS which should include:
 - Reliable and realistic traffic forecasts over the long-term, considering major development projects of the government and private sector.
 - Setting road alignment and ROW to be acquired immediately.
 - More emphasis on financial (including GFS) and legal aspects, aside from the engineering and economic feasibility aspects.

(6) **Detailed Engineering Design (DED)**

- The government may undertake the DED to enable early ROW acquisition. If not, the government should at least conduct the preliminary engineering and set the performance standards and parameters for the DED.
- It is preferred that the project proponent prepare the DED since financiers want the contractor to assume and control all design-build tasks.

(7) **Construction**

- The government should ensure unimpeded construction by providing the cleared ROW on time.
- The government should provide and enforce the time limits and milestones for the project proponent to implement the different stages of the project.

(8) **Operation**

- The government should ensure the automatic grant of franchise by the TRB, after bidding and contract award.
- The government should also ensure the implementation of initial toll rates and adjustments stipulated in the contract.

(9) **Risks**

- The government should assume the following risks:
 - Securing all government approvals before bidding.
 - Prompt ROW delivery before start of construction.
 - Adequate and timely GFS.
 - Implementation of agreed toll rates and adjustments per contract.
 - Compensation to the proponent if the government is unable to perform its undertakings, e.g., disallowing agreed adjustment of toll rates.
- The proponent is willing to assume financing and construction risks, if the government can handle the above undertakings and risks.

31.6 CAPACITY REQUIREMENTS OF THE BASIC STEPS IN THE PPP PROJECT CYCLE

Based on Chapter 18 of this Report, the DPWH capacity should be sufficiently developed to effectively handle each of the basic steps of the PPP project cycle, as follows;

- **Preparation** - preparation/application of national legislative and regulatory policies on PPP.
- **Project Identification** - business case study including PPP suitability assessment, traffic study, engineering design, environmental impact assessment, operation and maintenance (O&M), economic feasibility, and financial evaluation.
- **Project Appraisal** - selection of PPP modality, and definition of PPP structure.
- **Feasibility Study** - traffic study, engineering design, environmental impact assessment, O&M plan, economic feasibility, financial evaluation, tendering, Official Development Assistance (ODA) arrangements, and ROW acquisition.
- **Tendering** – project requirements, government support, bid evaluation criteria, and tender process.
- **Implementation** - government and private sector/contractor interface to ensure that the service is provided in accordance with the precise requirements, including construction, O&M, and monitoring.

31.7 SUMMARY OF BEST INTERNATIONAL PRACTICES AND PHILIPPINE LESSONS IN PPP

As discussed in various parts of this Study and as summarized in Chapter 18 of this Report, best international PPP practices usually involve the following stages, which suggest the development of corresponding DPWH capacity to effectively undertake them;

- Preliminary stage (preparation of PPP environment)
- Project identification (business case study)
- Project appraisal
- PPP design and agreement (feasibility study)
- Procurement (tendering for competitive bids, negotiation, and award)
- Implementation (construction and operation)

The lessons learned from the experience of implementation of PPP toll roads projects in the country reveal the following key issues in developing PPP road projects as presented in Chapter 18 of this Report. DPWH must provide the necessary institutional capacity to address these issues.

- Preparation of sector policy
- Legal and regulatory framework for PPP
- Identification of projects for priority implementation
- Design of PPP modality
- Preparation of business case to establish the basis for bidding
- Preparation of feasibility study
- Transparent process of tendering and bid evaluation
- Specification of detailed engineering
- Completion of ROW acquisition.

31.8 EXISTING AND PROPOSED DPWH ORGANIZATION AND FUNCTIONS RELATED TO PPP

31.8.1 Existing DPWH Organization and Functions Related to PPP

The functions and responsibilities pertaining to the 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.
- (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.
- (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.
- (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.
- (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).

- (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.

To perform its assigned tasks, the PMO-BOT has the following existing technical personnel:

Director II (Project Manager/head of office) – permanent or regular

Project Planning and Development Unit

Engineer V - contractual

Engineer III – contractual; detailed from another PMO

Project Development Officer II – contractual

Draftsman III – contractual

Project Execution/Contract and Engineering Management Unit

Engineer V - contractual

Engineer V – contractual; detailed from another PMO

Engineer IV – contractual; detailed from another PMO

Draftsman III – contractual; detailed from another PMO

Engineering Assistant – contractual

It will be noted that, notwithstanding its vital responsibility for the development and management of large PPP projects at DPWH, the PMO-BOT has only ten technical personnel, of whom only one is permanent or regular - the head of the office – whose rank is Director II only. The other nine are contractual personnel whose salaries are paid out of project funds and whose tenure is coterminous with the projects. Of these nine personnel, only five are in-house PMO-BOT staff; the other four are borrowed or detailed from other PMOs.

The PS has at least four Engineers from the Development Planning Division (DPD) to formulate long and medium-term plans for national roads, including expressways. It has also trained staff from the Infrastructure Planning, Research and Statistics Division (IPRSD) which manages a computerized road and bridge database (Road and Bridge Information Application or RBIA) and traffic database (Road Traffic Information Application or RTIA). Aside from RBIA and RTIA, the PS uses several modern IT-based planning systems and tools - e.g., Pavement Management System (PMS), Highway Development and Management System Version 4 (HDM-4), Multi-Year Programming and Scheduling (MYPS), Bridge Management System (BMS), etc. - to prepare multi-year road network plans and programs, identify potential projects including expressways, and prioritize them based on multi-criteria analysis.

The PMO-FS has several engineers, economists, and planning officers, employed on a contractual basis, performing project identification, preparation of alternative schemes, traffic analysis and demand forecasting, and economic and financial evaluation of road projects including expressways.

The IROWR-PMO appears understaffed with only five engineers – all contractuels – involved in ROW acquisition. They are assigned to several projects.

The ESSO has, apart from its Director, an Engineer III and Supervising Environmental Specialist, with support staff, to perform its functions as mentioned above.

The BOD appears to have a sufficient number of civil engineers to perform its functions. These include, among others, 11 engineers in its Survey and Investigation Division and 20 engineers in its Highway Division. The BOD, however, has only one geologist.

31.8.2 Proposed DPWH Rationalization Plan

The proposed Rationalization Plan of DPWH, pursuant to the provisions of Executive Order 366, series of 2004, seeks, among other things, to build up the organizational capability of the Department to undertake PPP projects. In particular, the Project Management Office for BOT Projects (PMO-BOT) of DPWH is proposed to be renamed into Public-Private Infrastructure Partnership Office (PPIPO) and shall be strengthened to focus on the identification, packaging and development of PPP projects for roads, bridges, other infrastructure facilities and to coordinate the commercialization efforts of the Department.

Under the Rationalization Plan, the PPIPO will have the following functions:

FUNCTIONS OF PPIPO

- | |
|--|
| <ol style="list-style-type: none">a. Identify, select and develop public private partnership (PPP) projects of the Department in accordance with the Medium Term Philippine Development Plan (MTPDP).b. Prepare project proposals, including draft bidding documents and concession agreement of PPP projects, for submission to NEDA and for eventual solicitation of bids.c. Initiate the inclusion of PPP projects in the DPWH Infrastructure Program.d. Review/evaluate unsolicited proposals from the private sector and participate in the negotiations of approved proposals ensuring that existing rules and regulations such as guarantees, subsidies, are strictly adhered to.e. After thorough evaluation of bids and proposals, recommend to higher management the award of PPP projects to the bidder/proponents who submits the lowest complying bid/proposal.f. Monitor the progress and implementation of the project to ensure that the parameters during the bidding and the terms and conditions in the concession agreement are strictly adhered to/carried out.g. Determine the challenges/bottlenecks/successes encountered in the implementation of projects, recommend solutions of these bottlenecks to higher management and adoption of successful lessons learned in future projects.h. Review and recommend for approval the detailed engineering designs and plans prepared by the DPWH and/or proponents for such projects.i. Perform other duties and responsibilities as may be assigned form time to time. |
|--|

To carry out these functions, the PPIPO is proposed to have the following regular or permanent technical staff;

- 1 - Director II
- 2 - Engineer V
- 2 - Engineer III
- 1 - Legal Officer II
- 1 - Project Development Officer III
- 1 - Project Development Officer II

Furthermore, the Rationalization Plan aptly proposes to strengthen the Planning Service (PS) to institutionalize road and bridge asset preservation applications, and to consolidate and integrate feasibility studies preparation and maintenance in the formulation of infrastructure plans and programs. The PS is proposed to absorb the functions of the PMO-FS. The new PS will have the following functions, with the italicized phrases inserted to clarify that the functions include PPP expressway projects:

FUNCTIONS OF NEW PS

- | |
|--|
| <ol style="list-style-type: none">1. Advise management on all matters relating to infrastructure planning and development (<i>including PPP</i>).2. Formulate and update policies, strategies, guidelines, standards, criteria for road and bridge asset preservation and network development (<i>including expressways</i>), and road safety planning and flood control programs.3. Formulate long and medium term infrastructure development plans and programs of the Department (<i>including expressways</i>), integrating road and bridge asset preservation and network development projects (including expressways) consistent with national policies and objectives, using the planning applications BMS, PMS and MYPS.4. Prepare annual infrastructure program.5. Determine annual needs of adequate road maintenance and road safety, formulate multi-year plans and programs with a view to ensuring no back log in national road maintenance and road safety projects, and other public works.6. Manage and maintain the road and bridge data base (RBIA), the Locational Referencing System (LRS) and Geographic Information System (GIS) (<i>including expressways</i>).7. Conduct pre-feasibility studies of infrastructure projects (<i>including expressways</i>) to determine their technical and economic viability and, in coordination with the Environmental, Social and Right-of-Way Office, their social acceptability and environmental, desirability, considering value engineering procedures.8. Collect and analyze road traffic volume, axle load data, and motor vehicle accident data for use in planning, design and maintenance of roads and bridges projects.9. Provide technical assistance, support and close coordination with other offices and agencies on matters relating to infrastructure planning, project preparation and project development and post-evaluation review (<i>including expressways</i>)10. Provide technical assistance to the different offices of the Department in the area of infrastructure planning (<i>including expressways</i>). |
|--|

To increase the capacity of the PS to perform the expanded functions under the Rationalization Plan, the proposed staff of the Development Planning Division (DPD), which is the PS unit concerned with the formulation of expressway plans, will have the following additional technical personnel:

- 6 - Engineers
- 2 - Planning Officers
- 1 - Economist

The PS will have a new Project Preparation and Evaluation Division (PPED) to conduct/review FS or projects, including expressways. The PPED will take the place of the PMO-FS and will be composed of the following regular technical personnel:

- 12 - Engineers
- 1 - Planning Officer
- 7 - Economists
- 1 - Financial Analyst
- 2 - Project Evaluation Engineers

Under the Rationalization Plan, the ESSO and IROWR-PMO will be merged to form the Environmental, Social and Right-of-Way Office (ESROWO) with the following functions;

FUNCTIONS OF ESROWO

1. Formulate, coordinate and monitor the implementation of policies and procedures to improve environmental, social impact assessment and right-of-way acquisition and management of public works and highways projects by the Central, Regional and District Offices.
2. Administer and conduct the preparation of EIA, EMP, and Land Acquisition Plan and Resettlement Action Plans (LAPRAP).
3. Coordinate with the Regional Offices and Project Management Offices regarding the acquisition of lots needed for the project and assist them resolve technical and administrative problems relating thereto.
4. Conduct periodic evaluation of the authenticity of ROW claims in Regional and District Offices.
5. Provide legal assistance on the review of deeds of absolute sale, deed of donation, memoranda and other instruments of agreement, complaints of landowners, issues related to land asset acquisition, filing of expropriation proceedings and cases on encroachment of right-of-way among others.
6. Formulate the appropriate guidelines on the issuance of right-of-way clearances prior to project implementation.
7. Maintain information archive of right-of-way acquisition documents including updated valuations on various properties, areas and locations, land titles and improvements acquired by the DPWH, among others.
8. Provide technical assistance to training, seminars and consultations on environmental impact assessment, social resettlement and land acquisition.

The ESROWO will have the following regular technical personnel:

- 1 - Director

Environmental and Social Division:

- 6 - Environmental Management Specialist
- 3 - Engineer II
- 1 - Community Development Officer

ROW Acquisition and Management Division:

- 8 - Engineers
- 2 - Legal Officers
- 1 - Legal Researcher
- 1 - Management Specialist

31.8.3 Suggestions of DPWH Officials Based on Survey and Interviews

In the self-assessment survey mentioned above, supplemented by interviews, the respondents proposed several changes in the functions and staffing of their respective offices to strengthen their capacity in PPP development and implementation.

(1) PMO-BOT

The Director and other staff from the PMO-BOT endorse the proposed Rationalization Plan, but suggest that their staff be further reinforced through the following:

PMO-BOT SUGGESTION

- i. Include a Legal Expert to craft and review concession agreements, participate in negotiations for PPP projects, and other legal matters.
- ii. Include a Financial Analyst to prepare financing structures and review financing models.
- iii. Include a Marketing and Communications Expert to market PPP projects and develop marketing strategies.
- iv. Include an Economist to do the economic assessment of PPP projects.
- v. Upgrade Legal Officer II to Legal Officer IV who will head the negotiating panel for contract negotiations; upgrade Financial Analyst II to Financial Analyst IV who will be a member of the negotiating panel.

The Legal and Financial staff should be high enough in terms of position and salary to attract the better equipped applicants.

The PMO-BOT officials further recommend that the office be authorized to approve PPP billings, variation orders and payments based on the consultants' recommendations, and that its representative head the supervision team assisted by consultants. It should have a regular budget for the development and implementation of PPP projects, e.g., for traveling expenses. The PMO-BOT also suggests updating of computer skills especially in mapping to improve geographical analysis.

(2) **PS**

The Director of the PS supports the Rationalization Plan which called for stronger functions and staff of the PS. The Chief of the DPD, PS, recommends that the head of the PMO-BOT be upgraded from Director II to Director IV commensurate with the high level of management responsibilities involved in PPP projects.

(3) **PMO-FS**

The PMO-FS officials proposed that the PMO-FS assist the PS and the PMO-BOT in the economic and financial evaluation as well as packaging and negotiation of PPP projects. They also suggest that all BOT related functions and staff be integrated into the PMO-BOT as a specialized one-stop office of DPWH for BOT/PPP matters. They propose to strengthen the economics, traffic/transport, and engineering sections, and to create evaluation sections to handle financial analyses and risk assessment. For this purpose, the PMO proposes new positions for Engineer III.

(4) **BOD**

The BOD officials suggest that the capacity of the Bureau be strengthened for PPP projects through (i) the conduct and review of value engineering during detailed design, (ii) overseeing and evaluation of the work performance of design consultants, (iii) the conduct or review of geo-hazard assessment/evaluation and mitigation studies, and (iv) improved design for road traffic safety.

They propose that additional engineers and geologists be provided to conduct/review geotechnical and geological investigations, geo-hazard assessment and mitigation studies, and road traffic safety, as well as additional computer-aided design (CAD) operators.

(5) **ESSO**

The ESSO officials suggested that new positions of Social Scientists be provided in their office to take charge of community organization matters.

(6) **PMO-IROWR**

The Director and staff of the PMO-IROWR suggest (i) to establish a team/unit which will undertake the formulation and study/review of policies pertaining to ROW acquisition of BOT projects, (ii) to have a team/unit which will focus mainly on BOT projects, and (iii) to involve the DPWH Regional and District Offices in ROW acquisition to augment the limited personnel of the PMO-IROWR.

For this purpose, they propose the following changes in the staff of the PMO-IROWR to strengthen its capacity in PPP undertakings:

PMO-IROWR SUGGESTION

- i. Upgrade Engineer IV to V to handle ROW acquisition of the project, coordinate with LGU officials, representatives of various agencies, implementing offices and contactors to facilitate ROW.
- ii. Upgrade Engineer III to IV to supervise the activities of ROW Agents and Coordinators.
- iii. Include a Legal Officer to provide clarification on legal issues pertaining to ROW acquisition.
- iv. Include a Geodetic Engineer to study parcellary surveys, subdivision plans and technical descriptions of ROW documents, such as titles, to check their validity.
- v. Include a ROW Agent to coordinate and negotiate with affected property owners; monitor processing of ROW documents.
- vi. Include a ROW Coordinator to conduct pre-census activities; assist ROW Agents in coordinating with affected property owners; gather ROW documents; and prepare ROW documentation.
- vii. Also include Document Specialists, Public Consultation Specialists, Resettlement Action Plan Specialists, Cost Estimators, and Land Appraiser to provide technical services in their respective fields.

31.9 RESULTS OF SURVEY ON TRAINING NEEDS

31.9.1 Survey Form and Results

Forms of the self-assessment survey is presented in Annex 31.1.

The results of the self-assessment survey on the needs for skills training on PPP development and management are summarized in **Table 31.9.1-1**.

TABLE 31.9.1-1 RESULTS OF SURVEY OF DPWH TRAINING NEEDS FOR CAPACITY STRENGTHENING IN PPP DEVELOPMENT AND IMPLEMENTATION

March 2010

Training Topic	Priority Rating					Present Knowledge		If Further Training is Needed (No.)						
	1st (No.)	2nd (No.)	3rd (No.)	Wtd Pts	Rank- ing	Ade- quate	Needs Further Training	Desired Training Level			Desired Training Mode			
								Appre- ciation	Refresher	Working Knowledg	Lectures/ Workshops	On-the-Job Training	Soft- ware	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
1. PPP Policy Framework														
1.1 Legal and policy framework	No.	11	2	4	41	3	0	17	7	3	7	17	1	0
	%						0	100.0	41.2	17.6	41.2	94.4	5.6	0.0
2. Project Identification														
2.1 Formulation of road network plan	No.	4	4	4	24	18	2	10	2	3	5	9	2	2
	%						16.7	83.3	20.0	30.0	50.0	69.2	15.4	15.4
2.2 Identfcn of potential expr projects	No.	9	6	2	41	3	2	15	2	5	8	13	3	2
	%						11.8	88.2	13.3	33.3	53.3	72.2	16.7	11.1
2.3 Formulation of expr master plan	No.	5	4	3	26	16	0	12	3	2	7	11	2	2
	%						0.0	100.0	25.0	16.7	58.3	73.3	13.3	13.3
3. Project Business Case														
3.1 PPP suitability assessment	No.	10	4	3	41	3	2	14	8	0	5	13	3	1
	%						12.5	87.5	61.5	0.0	38.5	76.5	17.6	5.9
3.2 Preliminary traffic study	No.	7	6	1	34	9	3	11	2	1	8	13	4	3
	%						21.4	78.6	18.2	9.1	72.7	65.0	20.0	15.0
3.3 Tech. assessment - incl alt engg designs & preliminary costings	No.	8	3	2	32	10	5	8	2	1	5	7	2	3
	%						38.5	61.5	25.0	12.5	62.5	58.3	16.7	25.0
3.4 Envrl assessment - incl ROW	No.	7	2	5	30	12	3	11	4	0	7	10	2	1
	%						21.4	78.6	36.4	0.0	63.6	76.9	15.4	7.7
3.5 Preparation of O&M scheme	No.	4	7	4	30	12	0	15	5	1	9	14	2	2
	%						0	100.0	33.3	6.7	60.0	77.8	11.1	11.1
3.6 Preliminary econ. analysis - incl feasibility indices of alternatives	No.	6	10	0	38	5	3	13	6	3	4	11	3	3

31.9.2 Training Topics

Of the 32 training topics or areas in **Table 31.9.1-1**, the survey respondents gave the highest ranking to ten topics, as listed in the order of ranking in **Table 31.9.2-1**:

TABLE 31.9.2-1 TOP-RANKED TEN TRAINING TOPICS

No.	Training Topic	Rank
1	Risk assessment, allocation and mitigation (item 4.8) under Project FS	1
2	Preliminary financial evaluation (item 3.7) under Project Business Case (BC)	2
3	Legal and policy framework (item 1.1)	3
4	PPP suitability assessment (item 3.1) under BS	3
5	Preparation of ROW and resettlement plans (item 4.4) under BS	3
6	Detailed traffic study and forecasts (item 4.1) under BS	4
7	Preliminary economic analysis (item 3.6) under BS	5
8	Selection of appropriate PPP modality (item 4.9) under FS	6
9	Preparation of O&M plan (item 4.5) under FS	7
10	Financial evaluation (item 4.7) under FS	7

It will be noted that the respondents placed heavier emphasis on the aspects that are peculiar to the development and implementation of PPP projects, i.e., beyond those involved in conventional (non-toll) road projects - particularly risk assessment, financial analysis, PPP suitability, legal aspects, and ROW concerns. This is consistent with the views of the private BOT firms interviewed in June 2009, which also suggested that development studies for PPP projects give greater importance to these aspects.

In addition to the topics in the survey form, the Chief of the Development Planning Division of PS suggests that “project monitoring and post-evaluation on impacts” of PPP projects be included in the training.

31.9.3 Present Level of Knowledge

As shown in **Table 31.9.1-1**, on the average, only 7 percent of the respondents felt that their present knowledge on the PPP topics is “adequate.” An overwhelming 93 percent, on the average, indicated that they “need(s) further training” on the topics.

The respondents were unanimous in indicating that further training is needed in 17 out of the 32 topics, as follows:

TOPICS THAT FURTHER TRAINING NEEDED

1.	Legal and policy framework
2.	Preparation of expressway master plan (Project Identification)
3.	Preparation of O&M scheme (BC)
4.	Preliminary financial evaluation (BC)
5.	Project business case appraisal/approval
6.	Detailed traffic study and forecasts (FS)
7.	Preparation of O&M plan (FS)
8.	Financial evaluation (FS)
9.	Risk assessment, allocation and mitigation (FS)
10.	Selection of appropriate PPP modality (FS)
11.	Preparation of procurement plan (FS)
12.	Conduct of bidding (Project Procurement)

- | |
|--|
| <ol style="list-style-type: none">13. Bids evaluation and award (Project Procurement)14. Contract perfection (Project Procurement)15. Financial closure (Project Implementation)16. Toll rates and adjustments (Project Operation)17. Supervision of O&M (Project Operation) |
|--|

31.9.4 Desired Training Level

As shown in **Table 31.9.1-1**, for 27 of the 32 topics, at least one-half (an average of 54.1 percent) of the survey respondents recommended that training be at the “working knowledge” level. This means that most of the respondents would like to DPWH staff concerned to learn how to actually apply or practice the PPP principles and techniques under the topics.

About one-third (an average of 32.0 percent) of the respondents indicated that an “appreciation” course is sufficient. This implies that they are not involved in the direct application of the activities under the topics, but still wish to be quickly oriented on the basic concepts which may be relevant to their work.

The rest (13.9 percent on the average) suggested that training on the topics be given as a “refresher.” This response emanated mainly from staff who already have some knowledge and experience on the topics concerned, but would like to be reoriented or updated on them.

31.9.5 Desired Training Mode

On the whole, more than two-thirds (average of 68.9 percent) of the survey respondents favor “lectures/workshops” as the main mode of training, as shown in **Table 31.9.1-1**.

Some one-fifth to one-third of the respondents also suggest (in addition to lectures/ workshops) “on-the job training” or practicum for six topics – namely, preliminary traffic study (BC), project business case appraisal/approval (BC), detailed traffic study and forecasts (FS), financial closure (Project Implementation), review/supervision of detailed engineering (Implementation), and supervision of construction (Implementation).

About one-fifth to one-third of the respondents likewise suggest the use of available “software” on seven topics, viz., technical assessment (BC), preliminary financial evaluation (BC), detailed traffic study and forecasts (FS), technical soundness evaluation (FS), economic evaluation (FS), financial evaluation (FS), and risk assessment (FS).

31.9.6 Interviews with DPWH Officials

The survey was complemented by interviews in February 2010 with key DPWH officials, particularly from PMO-BOT, PS, and PMO-FS. These officials underscored the need for DPWH to develop a pipeline of feasible PPP toll expressway projects, considering that the available list of identified projects appears to be limited. They also explained that DPWH should be adept at undertaking and appraising pre-FS (or business case) and FS for potential PPP projects, which must go beyond the traditional pre-FS and FS of regular road projects; hence, they should adequately delve into three important aspects in PPP project preparation – namely, financial evaluation, legal aspects, and risk assessment, aside from the usual engineering, economic and environmental studies. Moreover, they said that DPWH should beef up its capability for the procurement, implementation and operation of toll expressway projects under PPP.

To be able to effectively handle these tasks, these officials stressed the need for DPWH to acquire sufficient staff who can competently manage the different steps in the PPP project cycle.

More particularly, in an interview on 23 February 2010, the Director of the PMO-BOT emphasized the need for DPWH to improve its capacity to undertake, among other things, the following aspects of PPP development:

PMO-BOT DIRECTOR'S SUGGESTION

- Project identification, e.g., within a 200-km radius from Metro Manila as was done in the current JICA-DPWH Study on High Standard Highway Network.
- Feasibility study, especially risk allocation, financial analyses and use of financial models, and legal aspects including concession agreements and sub-agreements.
- Expeditious review of engineering design, including location and scheme for grade separation/overpasses/underpasses.
- Model Concession Agreements and bidding documents, as well as procurement procedures.
- Supervision of operation and maintenance (O&M) of tollways.

During an interview on 23 February 2010, the Chief of the DPD of the PS explained that the capacity of DPWH staff should be enhanced in the following PPP aspects;

DPD CHIEF'S SUGGESTION

- Identification of potential PPP expressway projects. For example, road sections showing a traffic volume/capacity ratio (V/C) of 0.6 or more would suggest the need for widening or a bypass. If, in addition, the annual average daily traffic (AADT) carried has already reached 100,000 or more, this could trigger a business case of an alternate route through a bypass or expressway.
- Business case study and feasibility study of PPP expressways, especially in undertaking traffic demand forecasts and modeling, financial assessment and analyses, and risk assessment and allocation including the use of models.

The DPD Chief added that skills in PPP development and management can be facilitated through the use of appropriate software and on-the-job-training (OJT), including assignment with expert consultants under technical assistance (TA) projects. She further suggested that case studies on PPP projects be used in the lectures/workshops and OJT to apply the new concepts (e.g., up to the conduct of FS). Likewise, she recommended the conduct of observation tours in countries (e.g., Thailand and Malaysia) which have successfully implemented PPP projects.

In an interview on 23 February 2010, the Director of the PMO-FS stressed the need for capacity development in the following areas:

PMO-FS DIRECTOR'S SUGGESTION

- Conduct of business case studies for PPP expressway projects. These should be geared more towards financial analyses; risk assessment, costing and delineation among stakeholders – DPWH and the private proponents; the extent to which government resources are to be allocated as financial assistance for the PPP since DPWH is trying to attract private investors; and benchmark analyses to indicate when toll expressway projects would be meritorious – e.g., use of traffic, economic feasibility and financial viability indicators.
- More pro-active role of DPWH in providing a pipeline of “cable-ready” PPP projects, instead of awaiting unsolicited proposals. This means DPWH should undertake the business case and feasibility studies for potential expressway projects to be bid out on PPP/BOT basis.
- Promoting PPP as a real joint collaboration between the government and the private sector.

The PMO-FS Director suggested that training on these aspects can be done through workshops as well as OJT to learn from the experience of the private sector in, e.g., tollway operations and use of engineering standards.

31.10 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 31.10-1**.

TABLE 31.10-1 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-RSTAD, 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
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 and evaluation of outputs	PPIPO	MIS, PS-PPED	
8.1 Monitoring and evaluation of outcomes	PPIPO	MIS,PS-PPED	

Note: Agencies within parentheses are external to DPWH

PPP policy framework formulation and project identification should be led by PS-DPD as part of its responsibility for total national road network planning. PPIPO, however, should actively participate in these activities. Similarly, BC studies and FS for PPP projects should be spearheaded by PS-PPED as these form part of their core functions of project development, but PPIPO should be actively involved in these undertakings. PPIPO should not duplicate the staff or functions of the PS-PPED.

The strengthening of the in-house staff of DPWH should be undertaken essentially to provide it enough basic capability to plan and manage the PPP process. It is not cost-effective or efficient for DPWH to directly perform all PPP activities by administration using its organic or in-house staff. Instead, based on experience and best management practices, it is likely to be more feasible and expedient for the Department to outsource or contract out many of the specialized PPP services to expert consultants. The services that may be out-sourced include, among others, the following:

SERVICES RECOMMENDED FOR OUT-SOURCING

- Business case/pre-feasibility study and/or its elements – such as preliminary traffic surveys, preliminary engineering surveys, etc.
- Feasibility study and/or its elements – such as traffic surveys, topographic surveys, soil investigations, value engineering, environmental impact assessment, parcellary surveys, financial evaluation, risk analysis, etc.
- Preliminary engineering and review of detailed engineering design, including value engineering
- Construction supervision

In these cases, the role of DPWH is to mainly to manage the process, i. e., (a) to prepare the Terms of Reference for the services to be out-sourced, including scopes of work, performance standards, and expected outputs, (b) to monitor and supervise the performance of the services, and (c) to review and approve the outputs of the services. The review of the detailed engineering design for PPP projects is usually performed by an Independent Design Checker (ICE), and the construction supervision is normally done by an Independent Certification Engineer (ICE), both of whom are hired by the Concessionaire to work for the government.

All of these proposals are expected to significantly strengthen the organizational capacity of DPWH to plan, promote, implement and manage PPP expressway projects.

31.11 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 31.11-1**, and detailed contents of each module is presented in Annex 30.2.

TABLE 31.11-1 RECOMMENDED TRAINING PROGRAM

Module No.	Topic	Brief Contents
1.	PPP Legal and Regulatory Framework	<ul style="list-style-type: none"> • Pertinent laws, rules and regulations • PPP policy framework
2.	Project Identification	<ul style="list-style-type: none"> • Formulation of road network plan • Identification of potential PPP projects • Preparation of expressway master plan
3.	Project Business Case Study	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Detailed traffic study and forecast • Technical soundness evaluation • Environmental impact evaluation • 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

		<ul style="list-style-type: none"> • Project appraisal and approval • Programming and budgeting
5.	Project Procurement	<ul style="list-style-type: none"> • Conduct of bidding • Bids evaluation and award • Contract perfection
6.	Project Implementation	<ul style="list-style-type: none"> • ROW acquisition and delivery • Financial closure • Review and supervision of detailed engineering design • Construction supervision
7.	Project Operation	<ul style="list-style-type: none"> • Implementation of toll rates and adjustment • O & M supervision
8.	Project Monitoring and Post-evaluation of Impact	<ul style="list-style-type: none"> • Monitoring and evaluation of project outputs • Monitoring and evaluation of project outcomes

31.12 TRAINING SCHEDULE

An indicative schedule for the training program is given in **Table 31.12-1** below. This will involve a total of 33 session days. Each session day will have four sessions – viz., 8:30 to 10:00 am, 10:30 am to 12:00 noon, 1:00 to 2:30 pm, and 3:00 to 4:30 pm.

TABLE 31.12-1 SCHEDULE OF DPWH REGULAR TRAINING ON PPP DEVELOPMENT AND IMPLEMENTATION

Module/Topic	Schedule	Duration In Days
Module 1 - PPP Legal and Regulatory Framework	Week 1	<u>1.5</u>
Pertinent laws, rules and regulations		0.5
PPP policy framework		1.0
Module 2 - Project Identification	Week 1	<u>2.0</u>
Formulation of road network plan		1.0
Identification of potential PPP projects		0.5
Preparation of expressway master plan		0.5
Module 3 -Project Business Case Study	Week 2	<u>6.5</u>
PPP suitability assessment		1.0
Traffic study		0.5
Technical evaluation		0.5
O&M scheme		0.5
Environmental impact assessment		0.5
Preliminary economic analysis		1.5
Financial viability assessment		1.5
Business case appraisal and approval		0.5
Module 4 - Project Feasibility Study	Weeks 3 and 4	<u>12.0</u>
Detailed traffic study and forecast		1.0
Technical soundness evaluation		1.0
Environmental impact evaluation		0.5
Preparation of ROW and resettlement plans		1.0
Preparation of O&M plan		1.0
Economic feasibility evaluation		1.0
Financial viability evaluation		1.5

Risk assessment		1.5
Selection of appropriate PPP modality		1.0
Preparation of procurement plan and documents		1.5
Project appraisal and approval		0.5
Programming and budgeting		0.5
Module 5 - Project Procurement	Week 5	3.0
Conduct of bidding		0.5
Bids evaluation and award		2.0
Contract perfection		0.5
Module 6 - Project Implementation	Week 6	5.0
ROW acquisition and delivery		0.5
Financial closure		1.0
Review/supervision of DED		1.0
Construction supervision		2.5
Module 7 -Project Operation	Week 7	3.0
Implementation of toll rates and rate adjustments		1.0
O&M supervision		2.0
Module 8 - Project Monitoring and Post-Evaluation of Impact		2.0
Monitoring and evaluation of project outputs		1.0
Monitoring and evaluation of project outcomes		1.0
Total		35.0

31.13 APPRECIATION AND REFRESHER COURSES

It is also recommended that a training module in the form of short “Appreciation” courses be implemented for officials who are either (i) not directly involved in the topics, or (ii) involved in the topics at a higher managerial level, as they indicated in the self-assessment survey of training needs. This module will orient them on the basic principles and practices on PPP activities without going much into detailed analyses and applications, but just enough to give them an overview of the topics which will enable them to more effectively carry out their respective PPP responsibilities. The module will run for five days only. It will focus on the topics which the respondents suggested for Appreciation level training. Shown in **Table 31.12-1** is the proposed schedule of Appreciation courses.

TABLE 13.12-1 DPWH APPRECIATION COURSE ON PPP DEVELOPMENT AND IMPLEMENTATION

Module/Topic	Duration In Days
Module 1 -PPP Legal and Regulatory Framework	0.25
Module 3 -Project Business Case	1.00
PPP suitability assessment	0.25
Preliminary economic analysis	0.25
Preliminary financial analysis	0.25
Other topics	0.25
Module 4 - Project Feasibility Study	1.25
Financial viability evaluation	0.25
Risk assessment	0.25
Selection of appropriate PPP modality	0.25
Preparation of procurement plan and documents	0.25
Other topics	0.25

Module 5 - Project Procurement	<u>0.75</u>
Bids evaluation and award	0.50
Other topics	0.25
Module 6 - Project Implementation	<u>1.00</u>
Financial closure	0.50
Review/supervision of DED	0.25
Construction supervision	0.25
Module 7 -Project Operation	<u>0.75</u>
Implementation of toll rates and rate adjustments	0.50
O&M supervision	0.25
Total	<u>5.00</u>

The content of each topic in the Appreciation course will essentially be similar to that in the regular training program, but in concise form. The training mode will mainly be in the form of lectures with some workshops/exercises.

It is recommended that “Refresher” courses be likewise given for officials/staff who are deemed to possess some basic knowledge and work experience on specific PPP topics, but need to be reoriented and updated on the principles and best practices related to the topics. Since the expected participants for Refresher courses are relatively few, based on the results of the self-assessment survey, they may simply join the corresponding sessions of the regular training program where the particular topics will be discussed. An alternative is to design and conduct separate Refresher programs for the staff concerned, with practically the same content as those for the topics in the regular training program.

CHAPTER 32

RECOMMENDATIONS

CHAPTER 32 RECOMMENDATIONS

32.1 PLAN AUTHORIZATION

The Master Plan for Metro Manila and its 200 km radius sphere was prepared under this Study. For the realization of proposed Master Plan, the first step is to authorize the Plan by the Philippine Government. DPWH should authorize the Plan as the agency's plan, then NEDA should do the same as a part of National Plan. For realization of the Plan, huge investment is required, thus, firm commitment must be obtained from not only the government side but also from the political side, showing "strong will" to realize the Plan. Also needed is the active participation of the Private Sector, therefore, strong partnership between the public sector and the private sector must be established.

Eight (8) projects selected as the first priority group should be included in the following Agency's Plan and the National Plan;

- List of Priority Projects in compliance with the Philippine BOT Law (RA 7718)
- Medium-Term Public Investment Program (MTPIP)
- Comprehensive and Integrated Infrastructure Program (CIIP)
- Medium-Term Philippine Development Programs (MTPDP)
- Medium-Term Regional Development Programs (MTRDP)
- Medium-Term Regional Development Investment Programs (MTRDIP)

32.2 SUFFICIENT STUDY DURING PROJECT IDENTIFICATION AND PREPARATION

Most of the proposed projects will be implemented under the public-private partnership (PPP) scheme. In the past, DPWH could not attract the private sector due mainly to non-profitability of project on the part of the private sector. In order to define appropriate PPP arrangements, detailed studies should be undertaken to select most appropriate PPP modality which attracts the private sector participation including profitability estimate, appropriate risk sharing, documents preparation to obtain necessary clearances from related agencies and LGUs and ROW acquisition plans for early start of ROW acquisition..

It is recommended to undertake the following studies;

- **Business Case Study** to define which PPP modality best fits to the project, including risk sharing.
- **Detailed Feasibility Study** through which all necessary clearances such as ECC, LGU endorsements, necessary documents required for NEDA approval, ROW acquisition plan to start ROW acquisition, etc. should be prepared.

More time and fund/budget should be spent for preparation of PPP projects than the conventional type of the projects, i.e. projects implemented only by the public sector funding.

32.3 GOVERNMENT BUDGET INCREASE AND ACTIVE PARTICIPATION OF PRIVATE SECTOR FOR INFRASTRUCTURE DEVELOPMENT

It is estimated that the Plan requires 141 Billion Pesos by 2020 and 203 Billion Pesos between 2020 and 2030 or a total of 344 Billion Pesos (at 2010 prices), thus huge investment is needed to form efficient transport backbone axes for national integration and universal development of the

country, to decrease chaotic traffic congestion and to improve global competitiveness of the country.

The Government's expenditure for infrastructure development has been low at less than 1% of GDP. It is commonly said that an appropriate level is around 3 to 4% of GDP. The Government should increase infrastructure budget.

DPWH capital outlay budget should be increased at least 5% per annum in real term.

Increase of the Government budget alone will not be enough to implement the Plan. Investments from the private sector are definitely needed to provide efficient transport services as early as possible, thus projects should be implemented with the active participation of the private sector. DPWH should target about 40% financing from the private sector to realize the Master Plan projects. Projects should be well planned to attract private sector investment, since project FIRR of most of the proposed projects are not high enough to attract the private sector without the Government support.

32.4 STRONG DPWH'S INITIATIVE TO BE EXERCISED

In order to realize the Plan, DPWH should exercise stronger initiatives than before. DPWH should authorize "the List of Priority Projects" for PPP projects and establish firm implementation schedule. The first step is to undertake a business case/detailed feasibility study for which DPWH should allocate a budget annually.

For various proposals made by the Government Owned and Controlled Corporations (GOCCs) and the private sector, DPWH should act on them and decide to accept or reject such proposals. In order to do above, DPWH needs to strengthen its organization and capacity as recommended by this Study.

32.5 DPWH AS A SINGLE ENTRY POINT OF PPP PROJECTS

As recommended by PEGR studies and this Study, DPWH should be authorized as "a single entry point of PPP projects". All road project proposals by GOCCs and the private sector should be first submitted to DPWH. This should be clearly specified in the proposed amendment of the Implementing Rules and Regulations (IRR) of BOT Law.

32.6 EXPEDITION OF ROW ACQUISITION

One of the major bottlenecks of project implementation is delay in ROW acquisition and related relocation of Project Affected Persons (PAPs). Three (3) measures are proposed as follows;

- To start ROW acquisition and related works as soon as the Project is approved by NEDA Board. ROW acquisition should start based on a preliminary design. To realize this, accuracy of a preliminary design during a detailed feasibility study needs to be improved.
- To acquire land and compensate properties at a market price level.
- To strengthen PMO-IROWR not only staffing but also their capacities and budgeting.

32.7 STRENGTHENING OF DPWH ORGANIZATION AND CAPACITY DEVELOPMENT

DPWH should be "the main engine" to accelerate the PPP projects. DPWH's initiative and roles to implement PPP projects are quite important. However, DPWH's organization and capacity is

not sufficient yet to fully comply with above requirement. Various recommendations were made in Chapter 31. It is sincerely hoped that these recommendations should be implemented for realization of the Master Plan.

32.8 UNSOLICITED PROPOSAL

Present Government's policy stipulated in the BOT Law (RA 7718) should be continuously and strictly followed. The private sector should formulate/create projects which are financially viable without direct Government's guarantees, subsidy and equity. In order to formulate financially viable projects, one of the possible ways is that the private sector should plan a toll expressway project combined with land development adjacent to a project to improve profitability of a project.

32.9 UPDATING OF THE MASTER PLAN

Socio-economic conditions assumed by the Study, land use in certain areas, Government's and the private sector's financial conditions, etc. may be changed in future. The Master Plan proposed by this Study should be periodically reviewed and updated, preferably at every 5 years.

32.10 COMPREHENSIVE EIA STUDY

All projects will require resettlement of more than 200 persons and many projects will take productive agricultural or fishery land for road ROW. Comprehensive EIA study should be undertaken and all possible measures to mitigate negative impacts should be proposed, incorporated in the detailed design and properly implemented.

32.11 METRO CEBU AND TAGUM-DAVAO-GEN. SANTOS CORRIDOR

Development strategy for Metro Cebu and the Tagum-Davao-Gen. Santos Corridor was proposed by the Study. Key projects were proposed by the Study. DPWH should prepare a Master Plan for these areas based on the recommendations of the Study. Development of "new roads" in both study areas has been rarely implemented, while urban development has been rapidly progressing. Without construction of new roads, urban development will be disorderly made and traffic congestion will be further aggravated. The Government should seriously consider and plan construction of new roads in the two study areas.

32.12 HSH-2 ROADS DEVELOPMENT

Under the Study, some of HSH-2 projects were proposed which were mainly focused on elimination of traffic bottlenecks along the existing arterial roads. Implementation of these HSH-2 projects must be carefully planned in due consideration of development of HSH-1 projects, so that double or over investment can be avoided. DPWH Central Office should closely coordinate with respective Regional Offices in selecting HSH-2 projects.

32.13 DPWH'S ROAD CLASSIFICATION

DPWH should add HSH-1 and HSH-2 in its road classification and information such as road length, traffic volume, number of lanes, etc. should be included in the road statistics.

Design standards should also include HSH-1 and HSH-2 roads.

32.14 UPDATING OF TRAFFIC DATA

Various traffic surveys were undertaken under this Study and OD matrices and node-link data were prepared. These data should be updated regularly. Whenever traffic surveys are undertaken by new feasibility studies and detailed design studies, these data should be compiled by DPWH in addition to DPWH's annual traffic survey.

It is also recommended that DPWH should also include a travel speed survey along major roads which reflects clearly condition of traffic congestion, so the survey results will become good index to justify bypass projects, grade-separation projects, etc.

