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資料 1 Terms of Reference

**SUMMARY OF PROJECT PROPOSAL FOR THE
DEVELOPMENT STUDY PROGRAM**

PROJECT TITLE	Standardization for Integrated Railway Network of Metro Manila
Kinds of Study	<u>M/P</u> F/S <u>D/D</u>
Implementing Agency 1. Name 2. Outline	-Department of Transportation and Communications -Government agency committed to the maintenance and expansion of reliable and efficient transportation and communications
Justification 1. Background 2. Goal (Long-term Objective)	1. Although there are a number of railway construction projects aimed at solving the increasingly serious traffic congestion in Metro Manila, integrated train operations, common use of stations, development of intermodal terminals and station squares are unfortunately not taken into consideration until now. So it will be indispensable to have so-called integrated network in terms of station transfer facilities, etc. in order to extend comfortable, convenient and high quality services at the LRT/MRT lines in M.M. The Project will be different from the USTDA-funded LRT Integration Study as Fare/Ticket Settlement and Detailed Design of a Model Terminal, among others, will be undertaken. 2. Full Integration of all LRT/MRT lines in Metro Manila
Terms of Reference 1. Objective 2. Area 3. Scope 4. Duration	1. To formulate a M/P for the full integration of LRT/MRT systems and to pursue technology transfer to the counterparts. 2. Metro Manila, Philippines 3. a) Guidelines for the future railway terminal and station square. b.) Development of new fare/ticket and settlement system c.) Standardized new systematic rules/regulations on railway infrastructure and operation. d.) D/D of a model terminal (Case Study & Basic Design) 4. Eighteen (18) months from June, 1999
Expected Funding Source	JICA and OECF for the construction of a model terminal
Other Relevant Project by Other Donor Country	LRT Integration Study funded by the United States Technical Development Assistance (USTDA)

APPLICATION FOR THE
DEVELOPMENT STUDY PROGRAM (DSP) FOR JFY 1999

I. PROJECT DIGEST

1. Project Title : STANDARDIZATION FOR INTEGRATED
RAILWAY NETWORK OF METRO MANILA
2. Location : Please see attachment 1
3. Implementing Agency.: Dept. of Transportation & Communications
Budget : Please see attachment 2
Organizational Chart : Please see attachment 3
4. Justification of the Project

(1) Background and Present Condition of the Sector

At present, there are a number of railway construction projects that are aimed at solving the increasingly serious traffic congestion in Metro Manila. Almost all these lines except MRT 2, which is being implemented by the LRTA, will be implemented under the BOT scheme and its variants by the different proponents from the private sector. Until now, however, integrated train operations, common use of stations, etc. are not taken into consideration by both the government and the proponents. Another point that must be looked into is having station squares as part of the intermodal facilities at railway terminals to accommodate bus and taxi stations which will be convenient for transferring passengers. Therefore, even if each railway line would be completed as projected, the configuration of all the lines in Metro Manila will be very far from the feature of the so-called integrated network in terms of, not only stations and transfer facilities, but also train operation and maintenance.

Table 1. List of Railway Projects

Project	Route	Length (km.)	Proponent/ Mode	Imp. Period	Status
LRT 1	Monumento-Baclaran	15.0	LRTA	1984	Operational
MRT 2	Recto-Katipunan	14.0	LRTA	1997-00	Ongoing
MRT 3	Taft-North Ave.EDSA	16.8	DOTC/BOT	1996-99	Ongoing
MRT 4	Recto-Batasan	15.1	DOTC/BOT	1998-	Under nego
MRT 6	Baclaran-Zapote	12.0	DOTC	1999-	-
North Rail	Manila-Clark	102	BCDA/JV	1997-	Ongoing

(2) Sectoral Development Policy

One of the most important plans for the midterm infrastructural development.

(3) Problems to be Solved in the Sector

The projected railway lines in Metro Manila will be unable to extend comfortable, convenient and high quality services to passengers and users because of the lack of integrated transfer facilities, etc. at the LRT stations. Furthermore, not having such integration will have a negative impact upon the management and business of each railway company.

(4) Outline of the Project

Part I. Establishment of Guidelines for the Future Railway Terminals and Station Squares

Standardization of Terminals with Ride and Ride System (e. g. Railway to Railway, Railway to Public Transport like buses, jeepneys, etc.)

- Facilities of the Terminal

- Concourse
- In-station offices concerned
- Shopping mall, restaurant, cafe
- Waiting square and/or room

- Automated Passenger/People Mover

- Sidewalk
- Elevator, Escalator, etc.

- Information and Guidance System

- Equipment/Apparatus necessary for the Railway Information System
- Pictographs and Signs for guidance of passengers
- Corporate Colors symbolizing stations and railway lines

Standardization of Station Squares

- Development of Station Squares and Standardization of Technical Specifications and Layout

Part II. LRT Line Integration Except Railway Terminals and Station Squares

Integration by Fare/Ticket and Settlement System for Different Lines

- Fare and Ticket System

- Common tickets valid for all LRT Lines
- Common tickets valid for all modes of transport
- Fare discount system for transit passengers

- Design of Fare Settlement System

- Appropriate fare collection system among different railway operators
- Appropriate fare settlement system among different railway operators

Standardization of Legal System on Railway Infrastructure/Facilities and Train Operation

(“Legal system on railway infrastructure/facilities and train operation” means a set of systematic rules and regulations stipulating technical standards of not only railway infrastructure/facilities but also train operation and safety.. DOTC expects these concrete technical standards as an output in order to construct the railway infrastructure/facilities efficiently and economically as well as to make the train operation and management effective and safe.)

- Rules/Regulations on Train Operation

- Stipulation on ensuring safety and efficient operation and maintenance
- Detailed specifications on rolling stock, tracks, signalling, power, etc.

- Rules/Regulations on Infrastructure, etc.

- Detailed specifications on superstructure and substructure of railway infrastructure.

Part III. Basic Design (B/D) of a Model Terminal

Basic design, which is a kind of detailed design (D/D), for the establishment of a model terminal with standardized facilities and system should be conducted. Model terminal will be any of the following:

- near D. Jose Station of LRT 1 where LRT Lines 2 & 4 meet
- near EDSA Station of LRT 1 and LRT 3
- near Cubao Station of LRT 2 and LRT 3

(5) Goal (Long-Term Objective)

Full integration of all LRT/MRT Lines in Metro Manila

(6) Prospective Beneficiaries

The riding public and the different operators/proponents

(7) The Project Priority in the National Development Plan

This project is in the first priority now that railway development is in full swing.

(8) Plan/Public Investment Program

None.

5. Desirable or Scheduled Time of the Commencement of the Project

The study will be completed within 18 months.

- Starting Japanese Fiscal Year: (June 1999)

- Finishing Japanese Fiscal Year: (November 2000)

6. Expected Funding Source and/or Assistance (Including External Origin)

Only expecting the Japanese/JICA Development Study Program.

7. Other Relevant Project, If Any

USTDA-funded LRT Integration Study

II. TERMS OF REFERENCE OF THE PROPOSED STUDY

1. Necessity/Justification of the Study

It is assumed that with the full operation of the proposed MRT/LRT lines composed of different operators in Metro Manila, problems related to passenger transfer, ticketing, fare settlement, and the like, will be imminent in the near future.

2. Necessity/Justification of the Japanese Technical Assistance

The Japanese has vast experience in the development of railway transport and the financial capability to sustain existence of projects such as this.

3. Objectives of the Study

- To formulate a master plan for the full integration of all MRT/LRT systems in Metro Manila;
- To pursue technology transfer to the counterpart personnel in the course of the study.

4. Area to Be Covered by the Study

All MRT/LRT lines in Metro Manila and suburbs.

5. Study Schedule

Start : June 1999
Finish : November 2000

6. Expected Major Outputs of the Study

Full integration master plan and detailed design of a model terminal.

- Guidelines for the future Railway Terminal and Station Square
- Fare/Ticket Settlement System for Different Lines, etc.
- Standardized New Legal System on Railway Infrastructure/Facilities and Train Operation
- Detailed Design (D/D) of a Model Terminal

7. Request of the Study from Other Donor Agencies

USTDA-funded LRT Integration Study. (The expected major outputs as stated in Item 6 above, are different from the USTDA Study.)

8. Relevant Reports to be Submitted (in English)

(1) Inception Report

- at the beginning of the first field survey for Part I and Part II
- should contain program and schedule of the study
- required no. of copies: 20

(2) Interim Report

- within three (3) months after the completion of the field survey for Part I and Part II
- should contain results of field survey
- required no. of copies: 20

(3) Draft Final Report

- within five (5) months after the submission of Interim Report
- should contain all necessary items regarding Part I and Part II
- required no. of copies: 20

(4) Final Report

- within two (2) months after the receipt of comments on the Draft Final Report
- required no. of copies: 20

9. Participating Agencies (other than DOTC)

- (1) National Economic and Development Agency (NEDA)
- (2) Department of Public Works and Highways
- (3) Metro Manila Development Authority (MMDA)
- (4) Public Estates Authority (PEA)
- (5) Relevant Local Government Units (LGUs)

10. Specific Fields of the Study Team

Specialists and experts in the following fields shall be assigned to the study:

- (1) Project Management
- (2) Administration
- (3) Financial Analysis
- (4) Demand Forecasting
- (5) Transportation Planning
- (6) City Planning
- (7) Interior Design
- (8) Land Acquisition and Land Use
- (9) Train Operations Management
- (10) Railway Signalling
- (11) Track Structure and Maintenance
- (12) Railway Power Traction
- (13) Rules and Regulations on Railway Safety

11. Estimated Cost of the Study

III. Facilities and Information for the Study Team

1. Assignment of Counterpart Personnel of the Implementing Agency

Necessary counterpart personnel will be assigned to the Study Team.

2. Available Data/Information, Maps, etc. Related to the Study

Metro Manila maps, station designs, alignment configuration, other relevant studies are available.

3. Information on the Security Conditions in the Study Area

The study area is considered relatively peaceful.

IV. Undertaking of the Government of the Republic of the Philippines

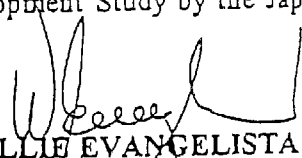
In order to facilitate the smooth and efficient conduct of the Study, the GOP shall take the following measures:

1. To secure the safety of the Study Team;

2. To permit the members of the Study Team to enter, leave and sojourn in the Philippines in connection with their assignment therein, and exempt them from alien registration requirements and consular fees;
 3. To exempt the Study Team from taxes, duties and any other charges on equipment, machinery and other materials brought into and out of the Philippines;
 4. To exempt the Study Team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Study Team for their services in connection with the implementation of the Study;
 5. To provide necessary facilities to the Study Team for remittances as well as utilization of the funds introduced in the Philippines from Japan in connection with the implementation of the Study;
 6. To secure permission or entry into private properties or restricted areas for the conduct of the Study;
 7. To secure permission for the Study to take all data, documents and necessary materials related to the Study out of the Philippines to Japan;
 8. To provide medical services as needed. Its expenses will be chargeable to members of the Study Team.
- V. The Government of the Republic of the Philippines shall bear claims, if any arises against member(s) of the Japanese Study Team resulting from occurring in the course of or otherwise connected with the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or wilful misconduct on the part of the member (s) of the Study Team.
- VI. The Department of Transportation and Communications shall act as a counterpart agency to the Japanese Study Team and also as coordinating body in relation with other governmental and non-governmental organizations concerned with the smooth implementation of the Study.

The Government of the Republic of the Philippines assures that matters in this form will be ensured for the smooth conduct of the Development Study by the Japanese Study Team.

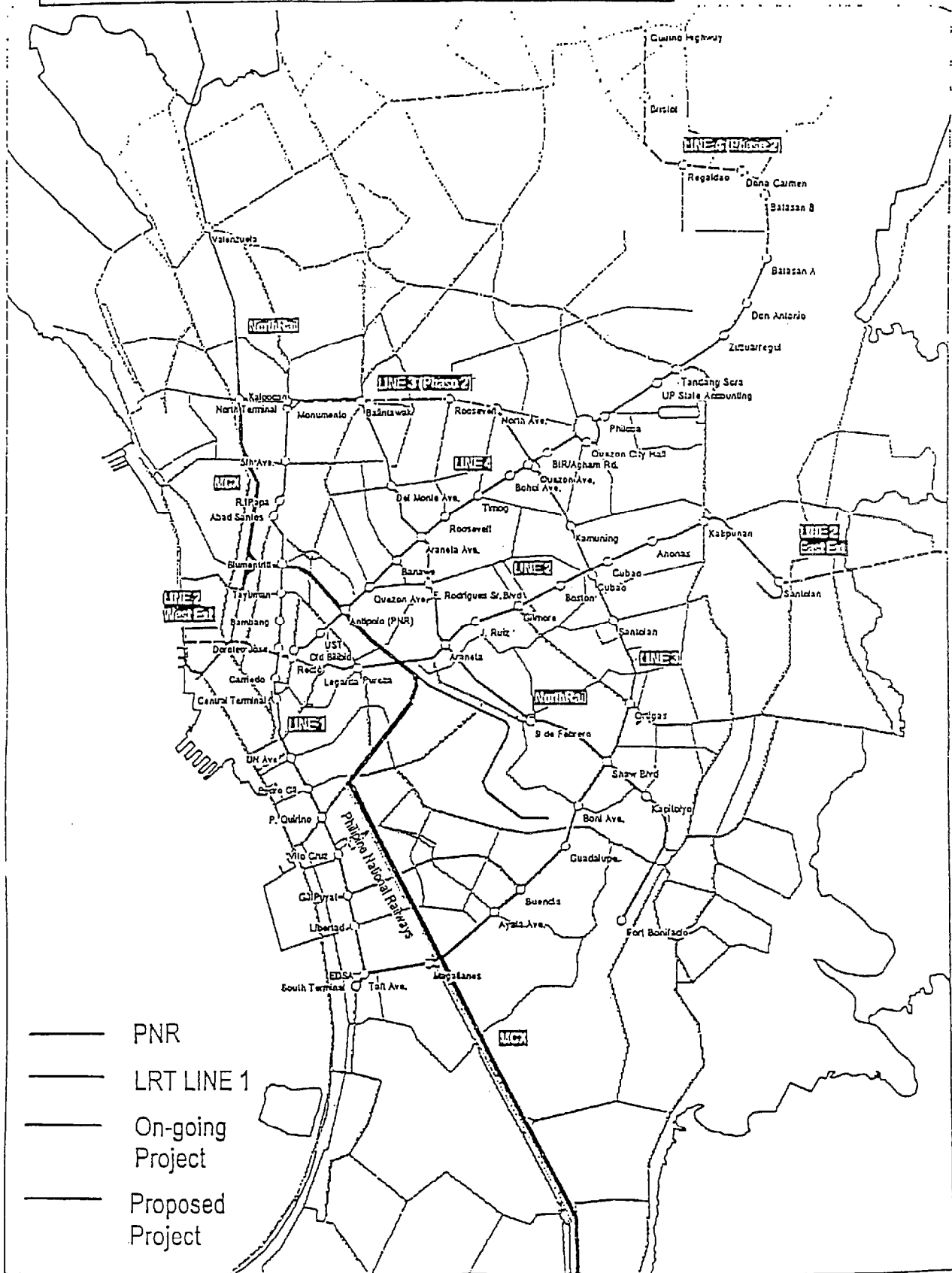
Signed:


WILLIE EVANGELISTA
Undersecretary, DOTC

Date :

On behalf of the Government of the Philippines

Attachment 1. Study Area and the Future Railway Network in Metro Manila



Attachment 2 Budget Allocation of DOTC

DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS
Summary of 1997 Adjusted Budget
(million pesos)

Office	PS	MOOE	CAPITAL OUTLAY			TOTAL	GRAND TOTAL
			REGULAR EQUIPMENT	LOCALLY FUNDED	FOREIGN-ASSISTED		
Sec-Propert	122.360	139.597	20.910	1,465.243	3,061.169	4,547.322	4,809.279
BLOF	766.323	267.458	0.000			0.000	1,033.786
FO	474.636	218.474	6.200			6.200	699.310
FO	390.260	294.411	55.237			55.237	739.908
CFRB	55.565	26.713	5.771			5.771	88.049
Total, OSEC	1,809.149	946.653	88.118	1,465.243	3,061.169	4,614.530	7,370.332
AB	11.949	2.846	0.190			0.190	14.985
ARENA	84.871	22.703	0.000			0.000	107.574
FC	71.714	23.365	2.200			2.200	97.279
TC	6.460	3.082	0.220			0.220	9.762
Total, AA	174.994	51.996	2.610	0.000	0.000	2.610	229.600
RTA **					34.608	34.608	34.608
NR ***		119.637				0.000	119.637
Total, Att. Corp.		119.637		0.000	34.608	34.608	154.245
TOTAL, DOTC	1,984.143	1,118.286	90.728	1,465.243	3,095.777	4,651.748	7,754.177

Includes Fixed Expenditures

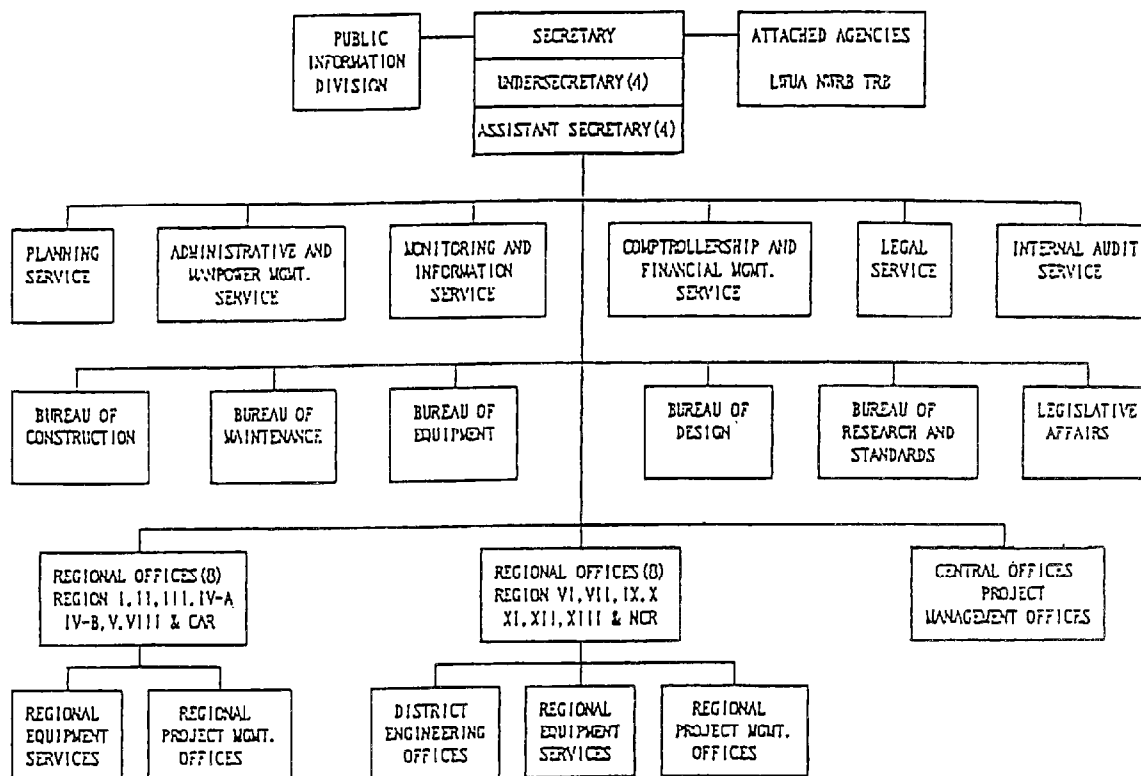
Investment outlay

Subsidy

SUMAD197

Attachment 3. Organization Chart of DOTC

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ORGANIZATION CHART



RESPONSIBILITIES OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

- A. **HIGHWAYS**: Integrated planning of the Philippine highway system, funding, design, construction, and maintenance of national roads (Provincial, city, municipal, and barangay roads are with Local Government Units (LGUs))
- B. **PORTS**: Planning, funding, design and construction of foreign-assisted fishing ports and municipal (feeder) multi-purpose ports (Other ports are with the DOTC and LGUs)
- C. **FLOOD CONTROL**: Planning, funding, construction, and maintenance of major flood control and drainage facilities
- D. **WATER SUPPLY**: Funding, design, and construction Level I facilities (Point Sources) with foreign financing (Locally funded Level I is with LGUs)
- E. **National BUILDINGS**: Design, construction, and maintenance of buildings of National Government agencies (Funded mainly by concerned agencies)
- F. **URBAN COMMUNITY INFRASTRUCTURE**: Planning, funding, construction and maintenance of basic national infrastructure in depressed areas of urban centers with foreign assistance (Locally funded community infrastructure is with LGUs)
- G. **OTHER PUBLIC WORKS**: Design and construction of schoolbuildings and other nationally-funded public works (funded by end-user agencies)

Terms of Reference

Scope of Work

The tasks to attain the objectives of the study specified herein are composed of the following:

- A. Data collection, review and analysis of existing data,
- B. Recommendation on development of Raid and Raid System,
- C. Establishment of standards of an integrated terminal area,
- D. Establishment of standards of integration of railway services,
- E. Case study of the selected terminals including financial analysis, institutional arrangements and implementation program,
- F. Preparation of Basic Design of the selected terminals.

Task A Data Collection and Analysis

The Consultants shall conduct collection, review and analysis of existing documents, information, plans and studies on transportation, land use, etc. relevant to the study area to attain the objectives which will affect on the development of the study.

The Consultants shall solely be responsible for the interpretation of all data/information and services received and for the findings and recommendation contained in the reports.

Coverage and category of data to be collected and reviewed are:

- + Public transportation data,
- + Land use data,
- + Development plan and development control plan of Metro Manila, and relevant laws and regulations,
- + Socioeconomic data,
- + Traffic management plan,
- + Commercial / Business data
- + Institutional data,
- + Useful information such as plans and examples that are helpful to develop the study,
- + Others, if necessary.

The Consultants must accomplish the following;

- + To identify present and future traffic trends and passenger demand,

Terms of Reference

- + To identify characteristics of passengers,
- + To identify the railway and public transport network in the study area,
- + To identify existing and future key terminal areas along the railway network,
- + To examine potential business/commercial opportunities in the terminal area, and
- + To review potential environmental impacts in the study area.

Task B Development of Rail and Rail System

The study, recommendations, and standards/guidelines which may be prepared by the Consultants shall reflect the actual conditions in the country, especially that of the private sectors which may play one of the leading parts in financing, construction, and operation of railway systems in the country.

The Consultants shall make recommendations in terms of the policies, measures, and procedures to develop the rail and rail systems and facilitate modal shift to railway from road traffic to formulate integrated railway system, which shall include recommendations for the improvement of the feeder systems.

The Consultants are expected to make recommendations on alteration of alignment and/or new lines or systems if required based on their examination to improve serviceability of the passenger, which may affect the locations of the terminal.

Task C Integration of Terminal Area

The integrated terminal specified herein shall have:

- + Function as junction and multi modal interface,
- + Function as public space, and
- + Function as the symbol or core of the terminal area.

The Consultants shall integrate the overall requirements for the integrated terminal such as terminal/junction functions, business center, and others into the scheme to be developed coordinating land use plan or developing plan in the area. The streetscape and general urban environment in station areas shall be improved to promote pedestrian accessibility and encourage pedestrian activities.

Terms of Reference

The Consultants are expected to obtain generalized solutions for planning and construction of the integrated terminal by patterning various terminals into typical patterns in the study area considering the factors above, which may be depending on;

- ✦ Character of passengers who use / visit the terminal,
- ✦ Character of rail and public transportation network system where the terminal is located,
- ✦ Surrounding conditions and future development plan of the terminal area.

Task C-1 Terminal Building and Transfer Facilities

The Consultants shall examine and determine functions/roles required, facilities, equipment, and systems to be required/installed in the terminal area, and whose performance, dimensions and sizes and other details to be owned.

The Consultant shall examine the passenger movements in the area and determine the most proper dimensions, size and performance of facilities and/or equipment to be installed into the terminal building.

Task C-2 Station Square

Station Square is an interface between the station area and surrounding public spaces or private spaces. The movement of passengers and pedestrians shall be examined to determine whose required specific roles, functions, area or size, arrangement and details to be provided by the Consultants.

Those details and the design method of the station square, which may be affected by land use, future development plan, potentiality, and others where the terminal is located and the number of passengers, shall be recommended by the Consultants.

Task C-3 Redevelopment of Terminal Area

The Consultants are expected to carry out the following deliberating land use management systems, including the analyses of major functions of land use plan of the terminal area to utilize the area most efficiently and effectively:

Terms of Reference

- + To identify objectives of the redevelopment,
- + To identify concept of the redevelopment
- + To identify area to be developed,
- + To coordinate land use plan at the terminal area, and
- + To identify land use management plan.

Task C-4 Patterning of Terminal

Based on the tasks above, the Consultants shall perform patterning of such terminal development plan in terms of terminal building, station square and relevant redevelopment of terminal area considering characteristics of the railway network where the terminal is located.

The proposed patterns of the integrated terminal shall serve as the guidelines or basis for further development.

Environmental impact shall be considered in task.

Task C-5 Establishing Standard of Integrated Terminal

The Consultants shall establish the standard of the integrated terminal. The following two standards shall be prepared by the Consultants:

- + Standard for new construction of integrated terminal,
- + Standard to integrate existing two or more terminals/stations.

The standards shall provide following in accordance with each terminal pattern specified in

Task C-4:

- + Policies and measures,
- + Institution and financing scheme,

The standards shall be established considering, but not be limited to, the following intended purposes:

- + As inter-modal interface, which may contain;
 - o Required functions for the junction between rail and rail or rail and public transport,
 - o Synthetic information system for the passenger,

Terms of Reference

- Required performance and guidelines to install such transfer facilities of escalator, elevator, and moving walk, etc.
 - Base of distribution network,
- + As public space;
 - Emergency evacuation systems, facilities for passengers, users, and/or visitors from the view points safety,
 - Policies, measures, plans to develop business and commercial potentials and opportunities,
- + As symbol / center of the area
 - To improve urban environment in the terminal area,
 - Design method or technique to improve the environment and strengthen the activities in the area.

Task C-6 Establishing Rules/Regulations for Consultation of Concerned Parties

Several government agencies and/or private sectors, and enterprises may become concerned in the planning and construction of the integrated terminal. The Consultants are expected to recommend such procedures and rules/regulations for consultation to all concerned parties to realize the plan.

Task C-7 Recommendation on Institutional Arrangement

The Consultants shall recommend the institutional arrangement and methodology or procedure to establish such institution to avoid conflicts and coordinate interests between the concerned for the implementation of the project.

Task C-8 Recommendation on Financial Arrangement

The Consultants are expected to recommend various methods and procedures to raise funds and financing for the implementation of the project considering various conditions in the country.

The private sector may play a key role to fund such project together with government financing.

Terms of Reference

Both the public and private sector institutions may take part in the project where the Consultants shall make recommendations on policies, procedures, and rules regarding how to allocate the costs and benefits between the parties concerned.

Task D Integration of Railway Services

The Consultants are expected to recommend policies and measures to improve and to activate existing and/or future railway systems to be constructed which shall provide high-quality services for the passengers.

Task D-1 Fare and Ticket System, Fare Collection System

The Consultants are expected to make recommendations on its effects and applicability of various fare systems, but not be limited to, on the following:

- ✦ Zone fare system,
- ✦ Non-linear fare system where the fare not directly proportional to distance,
- ✦ Common ticket, and
- ✦ Various discount ticket.

The Consultants shall review and assess the various fare collection systems, ticket inspection / ticketing facility in order to make recommendation on the system and facilities to be introduced.

Task D-2 Establishing Standard of Fare and Ticket System and Fare Collection System

Based on the examination of various systems including the state-of-the-art systems, the Consultants are expected to make recommendation on such systems and facilities to be introduced considering existing conditions in the country and to establish such standard taking into account characteristics of the present and future railway systems.

Terms of Reference

Task D-3 Establishing Standards of Construction and Railway Operation

Railway lines are planned and some of them are currently under construction without any consideration on integration of the system requirements, which might possibly cause an undesirable situation or investment losses in near future.

The Consultants shall make recommendation to establish rules and regulations that set forth the minimum requirements for:

- Railway construction,
- Railway operations, maintenance,
- Main features of rolling stock and safety system, and
- Others, if necessary.

Task D-4 Through Operation Service

Through operation service, which enables mutual use of each of the tracks by two or more railway companies, will reduce travel time of passengers by averting their transferring between terminals.

The Consultants shall examine the future railway network system proposed in various reports or plans in terms of:

- Identify the lines and investigate the possibility of implementation through operation service,
- Advantage and disadvantage of such through operation service,

Task D-5 Establishing the Standard of Through Operation Services

The Consultants are expected to establish the standard of the through operation service in the study area. Moreover, the Consultants shall also make recommendations on the procedure and rules on how to share such costs and how to make settlement of revenues between the concerned companies.

The Consultants shall identify the requirements for the through services to determine the details which shall cover:

- ♦ Design criteria such as minimum design requirements of alignment, structure and etc.,
- ♦ Details of electric power supply for train operation,

Terms of Reference

- ✦ Minimum features and performance of rolling stock,
- ✦ Details of various devices equipped in the rolling stock
- ✦ Signaling / telecommunication, and operation system, etc.

Task E Selection of Model Case for Case Study

The Consultants shall select the location and pattern of the model terminals and conduct the appropriate case study, which contains development plan, financial analyses and arrangement, and basic design.

Selection of the terminal to be designed shall be based mainly on the necessity of the terminal in terms of improvement of serviceability, development potential, number of forecasted passengers and environmental impacts by the resulting construction process.

Task E-1 Passenger Estimate

The Consultants shall perform passenger estimates utilizing collected data and information, which will serve as the basis in determining optimal dimensions, size and requirements to develop the terminal plan/design.

In forecasting passenger demand in the future, the Consultants shall consider effects to be taken as measures to increase the passengers such as improvement of feeder-system.

Task E-2 Selection of Model Terminal

The Consultants shall select model terminals on which model case study and basic design are performed.

At the very least, the following different types of case study shall be conducted:

- ✦ Case study on integration of existing two or more stations/terminals, and
- ✦ Case study on integrated terminal to be newly constructed.

Terms of Reference

Task E-3 Determination of Facilities

All facilities/equipment and performance, type, dimensions, size and other details to be constructed / installed into the integrated terminal shall be determined by the Consultants.

Task E-4 Development Plan

The Consultants shall identify:

- ✦ The location of the integrated terminal on which the case study or basic design is to be performed and draw up the development plan and program of the terminal area coordinating with related urban redevelopment/renewal plan.
- ✦ Dimensions, sizes and requirements shall be determined based on the passenger.

The following shall be considered, but not be limited to:

- ✦ Local and surrounding conditions of the terminal area,
- ✦ Business/commercial development plan,
- ✦ Environmental impacts study as Initial Environmental Examination level,
- ✦ Legality and regularity of the development plan in terms of the proposing and existing guidelines.
- ✦ Master plan including transfer facility plan to improve serviceability for the passengers/users and whose details, which shall be closely coordinated with railway plans and urban development or urban renewal plan in the terminal area.
- ✦ Financing arrangement institutional arrangement for implementation, and
- ✦ All other necessities to implement the plan as required.

Task E-5 Financial Analysis

The Consultant shall carry out the feasibility study on the premises that both the public and private sectors' participation during the project implementation are based on their basic design which shall meet the standard of the integrated terminal specified and recommended herein and shall contain;

- ✦ Consideration on revenues and benefits,
- ✦ Economic analysis,
- ✦ Financial analysis,

Terms of Reference

- + Preparation of a private sector participation scheme,
- + Identification of key roles for concerned government agencies, and
- + Formulation of a comprehensive implementation plan and program.

The Consultants shall conduct sensitivity analyses showing the variation of the EIRR and FIRR under various assumptions on the development plan and project costs.

Task F-1 Site Survey

The Consultants shall conduct all surveys as required to attain the objectives of the study. The following shall be included in the task as required to carry out the basic design, but not be limited to:

- + The conduct of detailed site surveys at each terminal as required,
- + Consideration of environmental mitigation measures at EIA level and indicate the scope of the ELA if required.

Task F-2 Basic Design

The Consultants, based on the formulated development strategies and site plans, shall prepare the basic design, as well as the environmental impact mitigation measures to obtain approval of the ECC.

The Consultants shall perform the basic design of the terminal at least two locations, one is selected for a newly constructed terminal and the other one is for integration of two or more stations existing, which shall include following based on the results of the basic design:

- + Concept design report,
- + Plan and sectional drawings,
- + Breakdowns showing major facilities and equipment,
- + Performance specifications for equipment to be installed,
- + Cost estimate including construction and engineering services and quantity-take-off, and
- + Construction schedule.

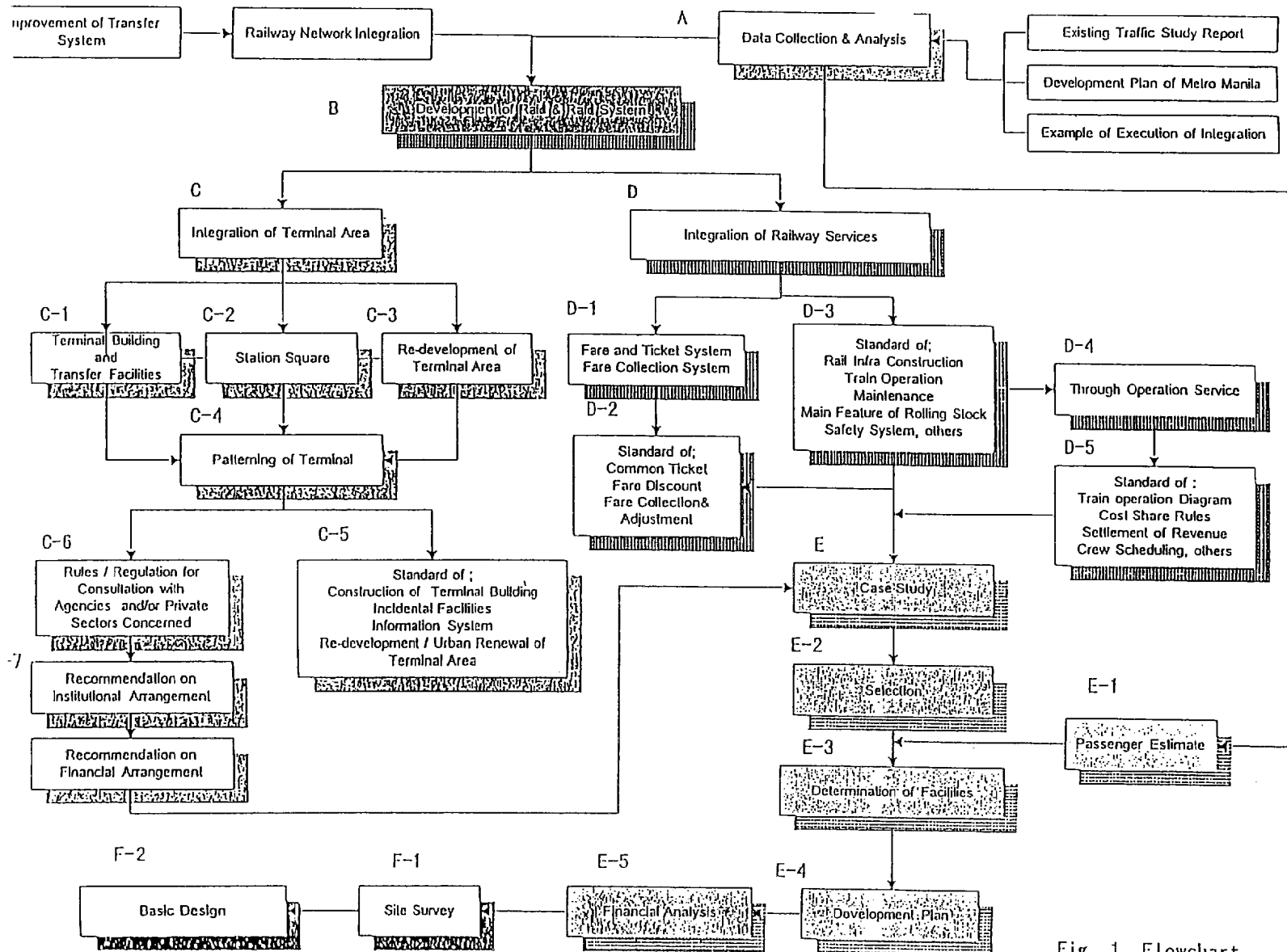


Fig. 1 Flowchart

Staffing Requirement

	Position	Month
E-1	Team Leader	3
E-2	Urban/Urban-renewal Planner	15
E-3	Urban Inter-modal Transportation Planner	13
E-4	Transport Demand Analyst	4
E-5	Architect	11
E-6	Structural Engineer	4
E-7	Transport Facility Engineer(s)	6
E-8	Operation Specialist	5
E-9	Civil Engineer(s)	12
E-10	Railway Engineer	7
E-11	Mechanical Engineer	3
E-12	Electrical Engineer	3
E-13	Economist/Financial Specialist	7
E-14	Institutional Specialist	7
E-15	Environmental Specialist	4
Total		104

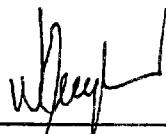
Table Tentative Schedule

Position		1999							2000												Total M/M		
		Jun.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
E-1	Team Leader	■	■		■		■	■		■	■							■		■	3		
E-2	Urban/Urban- renewal Planner																				15		
E-3	Urban Inter-modal Transportation Planner																				13		
E-4	Transportation Demand Analyst																				4		
E-5	Architect																				11		
E-6	Structure Engineer																				4		
E-7	Transportation Facility Engineer																				6		
E-8	Railway Operation Specialist																				5		
E-9	Civil Engineer																				12		
E-10	Railway Engineer																				7		
E-11	Mechanical Engineer																				3		
E-12	Electrical Engineer																				3		
E-13	Economist/Financial Specialist																				7		
E-14	Institutional Specialist																				7		
E-15	Environmental Specialist																				4		
Mile Stone		+	IC/R					P/R	+				IT/R	+					DF/R	+	+	F/R	104

資料 2 Implementing Arrangement

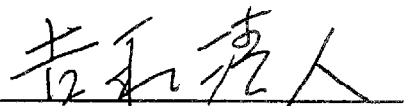
IMPLEMENTING ARRANGEMENT
OF
THE TECHNICAL COOPERATION
FOR
THE STUDY
ON
THE STANDARDIZATION
FOR
INTEGRATED RAILWAY NETWORK
OF
METRO MANILA
IN
THE REPUBLIC OF THE PHILIPPINES
AGREED UPON BETWEEN
DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
MANILA , PHILIPPINES

August 25, 1999



WILLIE EVANGELISTA

Undersecretary for Transportation
Department of
Transportation and Communications
(DOTC)



Kiyoto YOSHINAGA

Leader,
Preparatory Study Team,
Japan International Cooperation Agency
(JICA)

I. INTRODUCTION

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ"), has decided to conduct the study on the standardization for integrated railway network of Metro Manila in the Republic of Philippines (hereinafter referred to as "the Study"), and exchanged the Note Verbales with GOP concerning implementation of the Study.

Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programme of GOJ, will undertake the Study in accordance with the relevant laws and regulations enforced in Japan.

On the part of GOP, the Department of Transportation and Communications (hereinafter referred to as "DOTC") shall act as the counterpart agency to the Japanese study team and also as the coordinating body in relation with other concerned governmental and non-governmental organizations for the smooth implementation of the Study.




The present document constitutes the implementing arrangement between JICA and DOTC under the above mentioned Note Verbales exchanged between the two governments.

II. OBJECTIVE OF THE STUDY

The objectives of the Study are to formulate a Master Plan for the full integration of LRT/MRT systems and to pursue technology transfer to the counterparts.

III. STUDY AREA

The study area is Metro Manila, Philippines.



IV. SCOPE OF THE STUDY

In order to achieve the objectives mentioned above, the Study shall cover the following items:

1. Data collection, review and analysis of existing data
2. Recommendation on development of Rail and Rail System
3. Establishment of standards of an integrated terminal area.
4. Establishment of standards of integration of railway services
5. Case study of the selected terminals including financial analysis, institutional arrangements and implementation program
6. Preparation of preliminary design of the selected terminals

V. STUDY SCHEDULE

The Study shall be implemented in accordance with the attached tentative study schedule shown in the APPENDIX.

VI. REPORTS

JICA shall prepare and submit the following reports in English to GOP.

1. Inception Report

Twenty (20) copies

Within one (1) month after the commencement of the Study.

2. Progress Report

Twenty (20) copies

Within five (5) months after the commencement of the Study.

3. Interim Report

Twenty (20) copies

Within eleven (11) months after the commencement of the Study.

4. Draft Final Report

Twenty (20) copies

Within fifteen (15) months after the commencement of the Study.

DOTC will provide JICA with its comments within one (1) month after the receipt of the Draft Final Report



5. Final Report

Thirty (30) copies

Within two (2) months after the receipt of the comments on the Draft Final Report.

VI. UNDERTAKINGS OF GOP

In accordance with the Note Verbales exchanged between GOJ and GOP, GOP shall accord privileges, immunities and other assistance to the Japanese study team and, through the authorities concerned, take necessary measures to facilitate the smooth conduct of the Study.

1. GOP shall be responsible for dealing with claims, which may be brought by third parties against the members of the Japanese study team and shall hold them harmless in receipt of claim and liabilities arising in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims or liabilities arise from gross negligence or willful misconduct of the above mentioned members.
2. DOTC shall, at its own expense, provide the Japanese study team with the following, if necessary, in cooperation with other agencies concerned :
 - (1) available data and information related to the Study, including aerial photographs and maps;
 - (2) counterpart personnel;
 - (3) suitable office space with necessary equipment in Metro Manila;
 - (4) vehicles with drivers; and
 - (5) credentials or identification cards to the members of the Japanese study team.
3. DOTC shall make necessary arrangements with other governmental and non-governmental organizations concerned for the following:
 - (1) to secure the safety of the Japanese study team;
 - (2) to permit the members of the Japanese study team to enter, leave and sojourn in the Philippines for the duration of their assignment therein;
 - (3) to exempt the members of the Japanese study team from taxes, duties, fees and other charges on equipment, machinery and other materials brought into the Philippines for the conduct of the Study;

- (4) to exempt the members of the Japanese study team from income taxes and charges of any kind imposed on or in connection with any emoluments or allowance paid to the members of the Japanese study team for their services in connection with the implementation of the Study;
- (5) to provide necessary facilities to the Japanese study team for remittance as well as utilization of the funds introduced into the Philippines from Japan in connection with the implementation of the Study;
- (6) to secure permission for entry into private properties or restricted areas for the conduct of the Study;
- (7) to secure permission to take all data and documents including photographs related to the Study out of the Philippines to Japan by the Japanese study team; and
- (8) to provide the medical services as needed and its expenses will be chargeable on members of the Japanese study team.

VIII. UNDERTAKINGS OF GOJ

In accordance with the Note Verbales exchanged between GOJ and GOP, GOJ, through JICA, shall take the following measures for the implementation of the Study:

1. to dispatch, at its own expense, the study team to the Philippines; and
2. to pursue technology transfer to the Philippines counterpart personnel in the course of the Study.

IX. CONSULTATION

JICA and DOTC shall consult with each other with respect to any matter that may arise from or in connection with the Study.



Appendix

Tentative Study Schedule

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Work in Philippines																		
Work in Japan																		
Report Presentation																		

[Legend]

IC/R : Inception Report

P/R : Progress Report

IT/R : Interim Report

DF/R : Draft Final Report

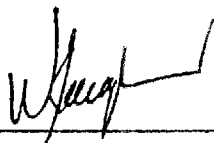
F/R : Final Report

資料 3 Minutes of Meeting

MINUTES OF MEETING
FOR
THE STUDY
ON
THE STANDARDIZATION
FOR
INTEGRATED RAILWAY NETWORK
OF
METRO MANILA
IN
THE REPUBLIC OF THE PHILIPPINES
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MANILA, PHILIPPINES

August 25, 1999



WILLIE EVANGELISTA

Undersecretary for Transportation
Department of
Transportation and Communications
(DOTC)



Kiyoto YOSHINAGA

Leader,
Preparatory Study Team,
Japan International Cooperation Agency
(JICA)

In response to the request of the Government of the Republic of the Philippines (hereinafter referred to as "GOP"), the Government of Japan (hereinafter referred to as "GOJ") dispatched the preparatory study team headed by Mr. Kiyoto Yoshinaga (hereinafter referred to as "the Team"), from August 18 to 27, 1999, through the Japan International Cooperation Agency (hereinafter referred to as "JICA"), to discuss a technical cooperation on the proposed THE STUDY ON THE STANDARDIZATION FOR INTEGRATED RAILWAY NETWORK OF METRO MANILA in the Republic of the Philippines (hereinafter referred to as "the Study").

The Team conducted field surveys and had a series of discussions with authorities of the GOP and Department of Transportation and Communications (hereinafter referred to as "DOTC").

Meetings were held between officials of DOTC and the Team from August 19 to 25, 1999. The list of participants to the meetings is shown in Annex 1.

The following summarizes the major points discussed between the Team and DOTC during the meetings:

1.Objective of the Study

Both sides agreed that the Study covers the integration between and among PNR commuter line, LRT and MRT.

2.The number of selected terminals

DOTC expressed that the number of selected terminals for the case study and the preparation of preliminary design is at least two.

3.Break down of scope of the Study

Main components of the study are as follows:

(1) Data collection, review and analysis of existing data

1) Existing traffic study report

2) Development plan of Metro Manila, etc.

- (2) Recommendation on development of Rail and Rail System
 - 1) Track
 - 2) Signaling
 - 3) Power, etc.
- (3) Establishment of standards of an integrated terminal area.
 - 1) Patterning of terminal
 - 2) Standards of construction of terminal building
 - 3) Standards of redevelopment/urban renewal of terminal area, etc.
- (4) Establishment of standards of integration of railway services
 - 1) Fare and ticket system
 - 2) Fare collection system
 - 3) Study of through operation service, etc.
- (5) Case study of the selected terminals including financial analysis, institutional arrangements and implementation program
 - 1) Development plan
 - 2) Financial analyses, etc.
- (6) Preparation of preliminary design of the selected terminals
 - 1) Site survey
 - 2) Preliminary design for functions, layout, passenger flow, perspective, etc.

4. Locations for the case study and the preliminary design

Both sides agreed that the locations for the case study (item 5 of scope of the study) and those for the preliminary design (item 6 of scope of the study) are the same.

5. Preliminary design




Preliminary design includes functions, layout, passenger flow and perspective but does not include structural design.

6. Establishment of Steering Committee

Both sides agreed that DOTC will establish a Steering Committee.

7. Office space

The Team requested DOTC to provide the study team, at DOTC's expense, with suitable office space with necessary equipment in Metro Manila. In response, DOTC agreed to provide an office with at least two telephone lines. The area of the office will be at least 100 m2.

8. Vehicles

The Team requested DOTC to provide the study team , at DOTC's expense, with vehicles.

In response, DOTC mentioned that it is difficult to provide these vehicles because of budgetary constraints of DOTC. Both sides agreed that the Team will convey the above DOTC response to JICA Headquarter.

9. Counterpart Training

DOTC requested the Team that DOTC counterpart personnel take advantage of training in Japan related to the Study to promote effective technology transfer. The Team promised to convey this request to JICA Headquarters.

10. Seminar

DOTC requested the Team that seminars should be held in Metro Manila for Interim Report presentation and Draft Final Report presentation. The number of participant is about 100 persons.

11. Equipment

DOTC requested the Team that equipment used during the Study should be handed over to DOTC at the end of the Study.

In response, the Team mentioned that it is difficult because JICA Development Study does not have a component of equipment supply.

Both sides agreed that the Team will convey this request to JICA Headquarters .

for

for

for

Annex 1

ATTENDANCE LIST

NAME	POSITION	OFFICE
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PHILIPPINE SIDE

Willie Evangelista	Undersecretary for Transportation	DOTC
George D. Esguerra	Assistant Secretary for Planning	DOTC
Samuel C. Custodio	OIC, Transportation Planning Service	DOTC
Terry C. Galvante, Jr.	Chief, Railway Transport Planning Div.	DOTC
Marites E. Tuazon	Supervising Transport Development Officer	DOTC
Joel R. Magbanua	Supervising Transport Development Officer	DOTC
Rafael E. Penafiel	Senior Transport Development Officer	DOTC
Feroisa T. Concordia	(Representative Infrastructure Staff)	NEDA

JAPANESE SIDE

Kiyoto Yoshinaga	Leader of the Preparatory Team	JICA
Hiroaki Takizawa	Member of the Team	JICA
Yoshinobu Miura	Member of the Team	JICA
Kazuyuki Shibayama	Member of the Team	JICA
Kazuhisa Kobayashi	Member of the Team	JICA
Nobuyoshi Sugimoto	Member of the Team	JICA
Masaaki Ueda	Member of the Team	JICA

Nobuyasu Ito	JICA Expert on Railway Management & Planning	DOTC
Hozumi Katsuta	JICA Expert on Integrated Transport Policy	DOTC

Hiroyuki Abe	Assistant Resident Representative of JICA Philippine Office	
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