

QUESTIONNAIRE

JAPANESE PREPARATORY STUDY TEAM

THE STUDY ON THE DEVELOPMENT
OF
NEW CNS/ATM SYSTEM

IN
THE REPUBLIC OF THE PHILIPPINES

NOVEMBER, 1997

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

This questionnaire is prepared by the Japanese Preparatory Study Team for the Study on the Development of New CNS/ATM System in the Republic of the Philippines to get basic information and data necessary to the Study. Please answer all questionnaire in English and also attach materials requested in this questionnaire.

However, it should be recognized that because of the preliminary characteristic of this questionnaire, the Study Team would like to ask for additional data/information on the occasion of discussion with the Philippines side.

The Preparatory Study Team would like to collect documents or maps listed in the attached table, during the Study Team stay in the Philippines. Please provide us with the data and information to enable us to smoothly execute the Preparatory Study. If there are any data or information unavailable at this time, please enter the applicable symbol letter "a", "b", or "c" in the space provided to indicate whether we can expect the answer;

- a) By the time of commencing the detailed survey after the Preparatory Study
- b) During the detailed survey after a certain progress has been made; or
- c) This answer is not available

THE LIST OF NECESSARY DATA/INFORMATION
FOR THE PREPARATORY STUDY OF THE STUDY ON THE DEVELOPMENT OF NEW CNS/ATM SYSTEM

(1)

ITEM AND NAME OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
1. Socio-Economic Indicators			
(1) Nationwide socio-economic data			
1) Statistics of the last 10 years on national socio-economic indicators			
• Population	A	NSCB, ATO	Selected Philippine Economic indicators(1995), Data Book(ATO/JICA)
• GDP and GNP by sector(agriculture, industry and service)	A	JETRO, NSCB, ATO	Selected Philippine Economic indicators(1995), Data Book(ATO/JICA)
• Labor force and employment by sector	A	JETRO, NSCB, ATO	Selected Philippine Economic indicators(1995), Data Book(ATO/JICA)
• Production by sector	A	JETRO, NSCB, ATO	Selected Philippine Economic indicators(1995), Data Book(ATO/JICA)
• Foreign trade	A	JETRO, NSCB, ATO	Selected Philippine Economic indicators(1995), Data Book(ATO/JICA)
• Prices and inflation	(A)	DOTC&NSCB	Statistical Yearbook
• Transportation by mode (network and traffic volume)	(A)	NSCB	Statistical Yearbook
2) Annual budget(national total and by sector)	(A)	BOI	Selected Philippine Economic indicators(1995)
3) Public investment by sector (results and plan)			
4) Tourism resources			
• Locations and survey reports of major tourism resources(inc. the number of tourist visitors)	(A)	DOTC	
• Tourism development program	(A)	DOTC	
5) Latest national economic development plan			
• Medium-term development plan (including forecast of population and GDP by sector)	(A)	NEDA	Medium-Term Development Plan(1992~1998)
• Long-term development plan (including forecast of population and GDP by sector)	(A)	NEDA	Long-Term Development Plan
• Development plan of transportation facilities by mode	A	DOTC	Medium-Term Development Plan(1992~1998)
(2) Regional socio-economic data			
1) Statistics of the last 10 years on regional socio-economic indicators			
• Population (including flow to/from abroad)	(A)	NSCB	Statistical Yearbook by Region
• GRDP by sector(agriculture, industry and service)	(A)	NSCB	Statistical Yearbook by Region
• Labor force and employment	(A)	NSCB	Statistical Yearbook by Region
• Production by sector	(A)	NSCB	Statistical Yearbook by Region

Note : (A) means that data could be available but have not yet been collected.

ITEM OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
• Transportation by mode (network and traffic volume)	A	DOTC	
2) Latest regional economic development plan			
• Medium-term development plan (including forecast of population and GRDP by sector).	(A)	NEDA	Development Plan by Region
• Long-term development plan (including forecast of population and GRDP by sector).	(A)	NEDA	Development Plan by Region
• Development plan of transportation facilities by mode	(A)	NEDA	Development Plan by Region
2. Organization and Regulations			
(1) Organization chart for government agencies, ATO and airports	A	ATO of DOTC	Data Book(ATO/JICA)
(2) Laws and regulations	(A)	ATO of DOTC	Administrative, Personnel Civil Service Rules E.O. No. 292
• Laws and regulations for government officials	A	ATO of DOTC	
• Air laws and its related regulations(enforcement regulations, facilitating standard) and etc.) and rules (processing rules, executing rules and etc.)			
(3) Allocation standards of staff and executing system	(A)	ATO of DOTC	
• Allocation standards for staff of ATO and airports	(A)	ATO of DOTC	
• Organization chart of system executing for their works	A	ATO of DOTC	
(4) Times and standard for employment, training and education agencies, and training system for staff			
(5) Relations of existing air transport facilities with donors, international agencies, banks and so on	(A)	ATO of DOTC	
3. Survey for Air Routes, Networks and Demand of Air Traffic			
(1) Structure of air routes			
• Structure of international and domestic air lines for inside and surrounding Manila area	A	Civil Aviation Board(CAB)	AIP

(3)

ITEM OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
(2) Air traffic volume by air route and by airports			
• Historical performance, future forecasting for air traffic volume by air route and future plan	A	ATO of DOTC	Data Book, Study Report by Consultant for forecasting and plan
• Historical performance, future forecasting for air traffic volume by air port and future plan	A	ATO of DOTC	Data Book, Study Report by Consultant for forecasting and plan
(3) Ratio of operation and reasons of cancellation of operation by airport	(A)	Air Lines	
(4) Procedure for noise abatement by airport	(A)	Airports	
(5) Air route network and the number of over flights			
• Network and future plan for domestic air lines	A	DOTC,CAB/ACOM	Civil Aviation Master Plan(CAMP), Draft, Vol.1
• Network and future plan for international air lines	A	DOTC,CAB/ACOM	Civil Aviation Master Plan(CAMP), Draft, Vol.1
• Historical performance and future forecasting of over flights	A	DOTC,CAB/ACOM	Civil Aviation Master Plan(CAMP), Draft, Vol.1
4. Airspace Management System and Air Traffic Service			
(1) Kinds of airspace			
• Terminal control airspace, control zone, training area and flight prohibited area	A	ATS/ATO	Aeronautical of information Publication(AIP)
• Airspace controlled by radar and non-radar	(A)	ATS/ATO	Possible to get from ATO
• Control agency of each airspace and control method	(A)	ATS/ATO	Possible to get by hearing to ATS of ATO(Except military air force)
(2) Military air base and airspace			
• Locations of military air base	(A)	Philippine Air Force(PAF) & ATO	
• Situation of military air base	(A)	Armed Force of Phil.(AFP) & ATO	
• Use of military airspace by military and civilian aircraft	(A)		
(3) Air traffic control procedure			
• Radar control procedure	(A)	ATS of ATO	Possible to get from ATS
• Non-radar control procedure	(A)	ATS of ATO	
• Departure and arrival procedure by airport	(A)	ATS of ATO	
• Letter of agreement between Manila ACC and adjacent ACCs	(A)	ATS of ATO	
(4) Flight information service			
• Type of information, method of collecting, method of delivery	(A)	ACOM. of ATS	

(4)

ITEM OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
S. Survey for installation, Operation and Maintenance of Air Traffic Control Facility and Air Navigation System			
(1) Current situation, elements, operation, installation and maintenance System for air traffic control facility			
• Method of area control and terminal control operation by airport	(A)	ATS of ATO	Need to interview
• Actual situation of area control and terminal control operation by airport	(A)	ATS of ATO	Need to interview
• Ledger and history of facilities, layout of equipment and maintenance manual for air traffic control facility	A	ATS of DOTC	Data Book(JICA) except layout chart
• Draft future plan for air traffic control operation	(A)	ATS of ATO	Need to interview
(2) Current situation, elements, operation, installation and maintenance system for air security			
• Ledger and history of facilities, layout of equipment and maintenance manual for air navigation system	A	ATS of DOTC Airports	Data Book(JICA) except layout chart for maintenance manual
(3) Current situation, elements, operation, installation and maintenance system for data processing system			
• Ledger and history of facilities, layout of equipment and maintenance manual	A	ATS of ATO Airports	Data Book(JICA) except layout chart for maintenance manual
• Kinds, installation and manner of operation for data processing system	A	ATO of DOTC	Data Book(JICA) except operation
• Future plan for data processing system	A	DOTC	General information of CAMP
(4) Budgeting system for installation and maintenance for air traffic control facility, air navigation system and data processing system			
• Agencies for budget execution	(A)	Financial Management Div./Dep. of Budget Management/DOTC	
• Period for budget execution	(A)	FMD/ATO	
• Procedure for budget execution	(A)	FMD/ATO	
6. Survey for Meteorological Service, Electricity and Telecommunication infrastructure for Existing CNS/ATM System			
(1) Scale of domestic and international telecommunication enterprises			
• List of line items able to be contracted	(A)	PLDT, AT/S/ANS	
• Contents of contracted lines related to air transportation	(A)	PLDT, AT/S/ANS	

(5)

ITEM OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
(2) Network charts and line specification of domestic and international data telecommunication lines			
• International telecommunication network charts of AFTN and other than AFTN	A	Airways Communication (ACOM) of ATO	Data Book(ATO/JICA)
• Domestic telecommunication line network charts	A	ACOM of ATO	Data Book(ATO/JICA)
• Specification for each line (kinds of lines, protocol, speed, adopted code, kinds of data, operation time and year and month of installation)	A	ACOM of ATO	Data Book(ATO/JICA)
• Statistics of each line for past five years (communicated volume, situation of loading and interference situation)	A	ACOM of ATO	Data Book(ATO/JICA)
(3) Network maps and line specification for controlled telephone lines			
• Domestic and international network maps	(A)	ACOM of ATO	
• Line specification (by kinds of lines, protocol, speed, operation hours and installment situation)	(A)	ACOM of ATO	
• Statistics of each line for past five years (call hours, interference)			
(4) Distribution maps and observed contents for meteorological agencies	(A)	PAGASA of DNR	
• Distribution maps of aeronautical weather observatory	(A)	PAGASA of DNR	
• Observed contents by weather observatory, flow for supplement of weather data and operation hours			
(5) Telecommunication line network maps and specification for meteorological data exchange			
• Network maps for telecommunication lines	(A)	PAGASA of DNR	
• Line specification (by kinds of lines, protocol, speed, adopted codes, kinds of data, operated hours year and month of installation)	(A)	PAGASA of DNR	
(6) Current condition of electricity			
• Nationwide condition of electricity	(A)	Airways Navigation Systems Specialist (ANSS) of ATO	
• Condition of electricity of major airports and air navigation facility	(A)	Aircraft Maintenance Service (AMS) & ANSS	
• Future plan for electrical facility	(A)	ANSS	
7. Survey for Measures and Introduction Plans for New CNS/ATM System by Aircraft			
(1) Current situation and introduction plans for FANS-1 compatible aircraft of Philippines	(A)	Study Group of ATO and Each Air line	Study report by study group which is composed of ATC, ACOM, ANSS, NEDA & DOTC
(2) The number of FANS-1 compatible aircraft passing over Manila FIR and the number of FANS-1 compatible foreign aircraft using airports of Philippines	A	Study Group of ATO	Study report by study group, Data Book(JICA/ATO)

ITEM OF NECESSARY DATA	AVAILABILITY		NAME OF MATERIALS
	AVAILABLE OR NOT	PLACE OF AVAILABLE DATA	
8. Survey for Existing Study and Plans Concerning New CNS/ATM System			
(1) Basic plan and future vision for new CNS/ATM system	A	Study group of ATO	Study report and Annual Report of Air Transportation Officer(1996)
(2) Finished projects	A	Study group of ATO	Study report and Annual Report of Air Transportation Officer(1996)
• Names of finished projects and their Donors, executing agencies, executing companies, producing companies and etc.			
(3) On going projects	A	Study group of ATO	Study report and Annual Report of Air Transportation Officer(1996)
• Names of on going projects and their donors, executing agencies, executing companies, producing companies and etc.			
(4) Planned projects	(A)	Study group of ATO	Study report and Annual Report of Air Transportation Officer(1996)
• Names of on going projects and their Donors, executing agencies, executing companies, producing companies and etc.			
9. Survey for Other Existing Study and Plans Concerning Air Transportation Sector			
(1) Finished projects	(A)	Planning Div. of DOTC	
• Donors, executing agencies, executing companies, producing companies and etc.			
(2) On going projects	(A)	Planning Div. of DOTC	
• Donors, executing agencies, executing companies, producing companies and etc.			
(3) Planned projects	(A)	Planning Div. of DOTC	
• Donors, executing agencies, executing companies, producing companies and etc.			
10. List of Projects for Other Modes of Transportation(Roads, Railway and Ship)	(A)	LTO, PNR, MARINA/PPA of DOTC	
11. Survey for Geographical and Natural Environment Conditions	A		
(1) Land use condition and laws and regulations for land acquisition, use and management	(A)	DENR/AMS	
(2) Materials and statistics for natural disasters like typhoon, earthquakes and so on	(A)	PAGASA	
(3) Environmental assessment reports for air transportation	A	JICA/ATO	The Study on Selected Airport Master Plan(JICA)
• Natural environment assessment reports	A	DENR	
• Social environment assessment reports	(A)	DENR	

付属資料／参考資料5 収集資料一覧

様式

収集資料リスト

主計部長 兼 資料管理部長 田中 正 氏	資料管理部長 田中 正 氏
主計課長 兼 資料管理課長 田中 正 氏	資料管理課長 田中 正 氏

昭和 9 年 11 月 28 日 作成

地 区	開 発 団 体 名 称	資料の名称	形態	版 型	ページ数	コピー数	部数	収集先名又は発行機関	購入・寄贈(寄附)の別	地区区分	利用区分	利用目的	納入予定日
国 名	ライオン	ライオン国次世代航空保安システム開発競争計画報告書	製本	A4	67	オリジナル	1		購入				
1		Selected Philippine Economic Indicators, 1995 Yearbook	製本	A4	65	オリジナル	1	中央銀行	購入				
2		Selected Philippine Economic Indicators, Fourth Quarter 1996	製本	A4	35	オリジナル	1	中央銀行	購入				
3		Selected Philippine Economic Indicators, October 1997	製本	B5	530	オリジナル	2	フィリピン連工務研究所	購入				
4		フィリピン経済の引き (改訂版)	製本	A4	170	オリジナル	9	ATO/JICA	寄贈				
5		Data Book, Air Transportation in the Philippines	コピー綴じ本	A4	170	コピー	2	ATO/JICA	購入				
6		Data Book, Air Transportation in the Philippines	コピー綴じ本	A4	95	コピー	2	ATO	購入				
7		Annual Report of Air Transportation Office-1995	コピー綴じ本	A4	103	コピー	2	ATO	購入				
8		Annual Report of Air Transportation Office-1996(Draft)	コピー綴じ本	A4									
9		The Philippines Communication, Navigation, Surveillance and Air Traffic Management(CNS/ATM) Systems Transition and Implementation Plan	コピー綴じ本	A4	81	コピー	2	ATO	購入				
10		Civil Aviation Master Plan, Draft Report Vol.1	コピー綴じ本	A4	450	コピー	2	DOTC	購入				
11		AIP, Aeronautical Information Publication, Sixth Edition	コピー綴じ本	A4	530	オリジナル	3	ATO	購入				
12		Civil Air Regulation Governing Maintenance, Repair and Alteration of Airframes, Powerplants, Propellers and Appliances, Series of 1976	コピー綴じ本	B6	34	コピー	1	Civil Aeronautical Adm.(CAA)	購入				
13		Civil Air Regulation Governing Heliports, Series of 1973	コピー綴じ本	B6	12	コピー	1	CAA	購入				
14		Civil Air Regulation Governing Licensing of Airman, Series of 1956	コピー綴じ本	B6	130	コピー	1	ATO	購入				
15		Civil Air Regulation Governing Operation of Helicopters, Domestic Commercial Air Transportation in Scheduled and Non-Scheduled Services, Series of 1955	コピー綴じ本	B6	58	コピー	2	ATO	購入				
16		Civil Aeronautic Act As Amended by P.D. 8244, 1274, 1462, E.O. 546, Series of 1952	コピー綴じ本	B6	28	コピー	1	ATO	購入				
17		Civil Air Regulation Governing Aerobomes for Aircraft Operation under VFR Only, Series of 1973	コピー綴じ本	B6	9	コピー	1	CAA	購入				
18		Civil Air Regulation Governing Construction, Classification and Rating of Aerobomes Whether National, Provincial, Municipal or Private, Except Aerobomes for Use by Aircraft with Maximum Gross Weight Not Exceeding 12,500 LBS on VFR Condit., Series of 1967	コピー綴じ本	B6	66	コピー	1	CAA	購入				
20		Civil Air Regulation Governing Operation of Civil Aircraft in the Philippines, Series of 1964	コピー綴じ本	B6	43	コピー	1	CAA	購入				
21		Civil Air Regulation Governing Helicopters, Series of 1973	コピー綴じ本	B6	13	コピー	1	CAA	購入				
19		Civil Air Regulation Governing Operation of Foreign Carrier, Series of 1973	コピー綴じ本	B6	12	コピー	1	Bureau of Air Transportation	購入				
22		Environmental Evaluation for Airport (a part of Study Report on "Selected Airports MP Project in the Philippines")	コピー綴じ本	A4	20	コピー	1	ATO	購入				

国際協力事業団

様式

収集資料リスト

主行此区	支所行此区	支所名	支所番号
関係官職氏名	関係官職氏名	関係官職氏名	関係官職氏名

昭和9年11月28日作成

番号	資料の名称	型番	版数	ページ数	フォーマットの別	招数	収集先名又は機関	発行	購入・寄贈(価額の別)	電磁区分	利用表示	利用目的名	購入予定日	納入済否	作成部課	
															現地の調査期間	調査の種別
23	Civil Air Regulation Governing Aircraft Nationality and Registration Markings, Series of 1953	コピー-逐じ本	A4	7	コピー	1	ATO		購入						作成部課	
24	Civil Air Regulation Governing Issuance of Air Carrier Operating Certificates, Series of 1959	コピー-逐じ本	A4	15	コピー	2	CAA		購入						作成部課	
25	Handling of Presidential and Vice Presidential Aircraft, Series of 1963	コピー-逐じ本	A4	3	コピー	1	CAA		購入						作成部課	
26	Civil Air Regulation Governing Licensing of Cabin Crew in the Philippines, Series of 1968	コピー-逐じ本	A4	4	コピー	1	ATO		購入						作成部課	
27	Civil Air Regulation Governing Crash and Rescue Organization and Procedures for MINDYO AQUINO International Airport, Series of 1969	コピー-逐じ本	A4	7	コピー	1	ATO		購入						作成部課	
28	Civil Air Regulation Governing Shipment Loading and Carriage of Explosive, Flammable, Corrosive or Poisonous Substance or Material on Cargo Aircraft, Series of 1972	コピー-逐じ本	A4	3	コピー	2	ATO		購入						作成部課	
29	Civil Air Regulation Governing Pilot Schools, Series of 1973	コピー-逐じ本	A4	32	コピー	1	ATO		購入						作成部課	
30	Civil Air Regulation Governing Operations of Manned Balloons, Kites, Unmanned rockets and Unmanned Free Balloons, Series of 1973	コピー-逐じ本	A4	8	コピー	1	ATO		購入						作成部課	
31	Civil Air Regulation Governing Accident Investigation Involving Civil Aircraft, Series of 1973	コピー-逐じ本	A4	11	コピー	1	ATO		購入						作成部課	
32	Civil Air Regulation Governing Aircraft Maintenance Technician Schools Certificates and Rating, Series of 1975	コピー-逐じ本	A4	22	コピー	1	ATO		購入						作成部課	
33	Civil Air Regulation Governing Issuance of Permits to Aero Clubs, Series of 1978	コピー-逐じ本	A4	6	コピー	1	ATO		購入						作成部課	
34	Civil Air Regulation Governing Carriage of Live Animals on Board an Aircraft, Series of 1978	コピー-逐じ本	A4	7	コピー	1	ATO		購入						作成部課	
35	Civil Air Regulation Governing Issuance of Aircraft Material Distributors Certificates, Series of 1979	コピー-逐じ本	A4	6	コピー	2	ATO		購入						作成部課	
36	Civil Air Regulation Governing Repair Station Certificates, Series of 1980	コピー-逐じ本	A4	37	コピー	2	ATO		購入						作成部課	
37	Civil Air Regulation Governing Rules of the Air, Series of 1985	コピー-逐じ本	A4	61	コピー	1	ATO		購入						作成部課	
38	Civil Air Regulation Governing Search and Rescue Services, Series of 1985	コピー-逐じ本	A4	17	コピー	1	ATS, Bureau of Air Transportation		購入						作成部課	
39	Administrative Order No. 1, Series of 1985, Fees and Charges for the Use of Air Navigation Facilities (As Amended by A.O. 1-A, Series 1985)	コピー-逐じ本	A4	5	コピー	1	Bureau of Air Transportation		購入						作成部課	
40	Administrative Order No. 1, Series of 1985, Fees and Charges for the Use of Air Navigation Facilities	コピー-逐じ本	A4	5	コピー	1	ATO		購入						作成部課	
41	Civil Air Regulation Governing Standards for Airworthiness of Aircraft, Series of 1987	コピー-逐じ本	A4	32	コピー	1	ATO		購入						作成部課	
42	フィリピンの航空概況 (1997年11月)	コピー-逐じ本	A4	13	コピー	1	JETRO		寄贈						作成部課	

国際協力事業団

主幹部長 文部科学大臣 田中 耕太郎	副主幹部長 文部科学大臣 田中 耕太郎	印刷部 文部科学大臣 田中 耕太郎
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収集資料リスト

昭和9年11月28日作成

地域	国名	別表団体名称	資料の名称	形態	版型	ページ数	マイクロフィルム・コピーの別	部数	収集先名又は機関	発行	購入、寄贈(価)の別	取扱区分	利用の所定	購入予定日	納入備考
	フィリピン	フィリピン国及びフィリピン共和国	フィリピン共和国セクター別基礎資料(公衆・公益事業)	コピー紙	A4	107	コピー	1	JICA フィリピン事務所	購入	購入				
			44) 「比国内紙産産販代化計画」の概要	コピー-厚紙	A4	19	コピー	1	フィリピン農林銀行	寄贈					
			45) UPDATED MEDIUM-TERM PHILIPPINE DEVELOPMENT PLAN (1996-1998)	コピー-厚紙	A4	200	コピー	1	NEDA	購入					

関 連 図 表

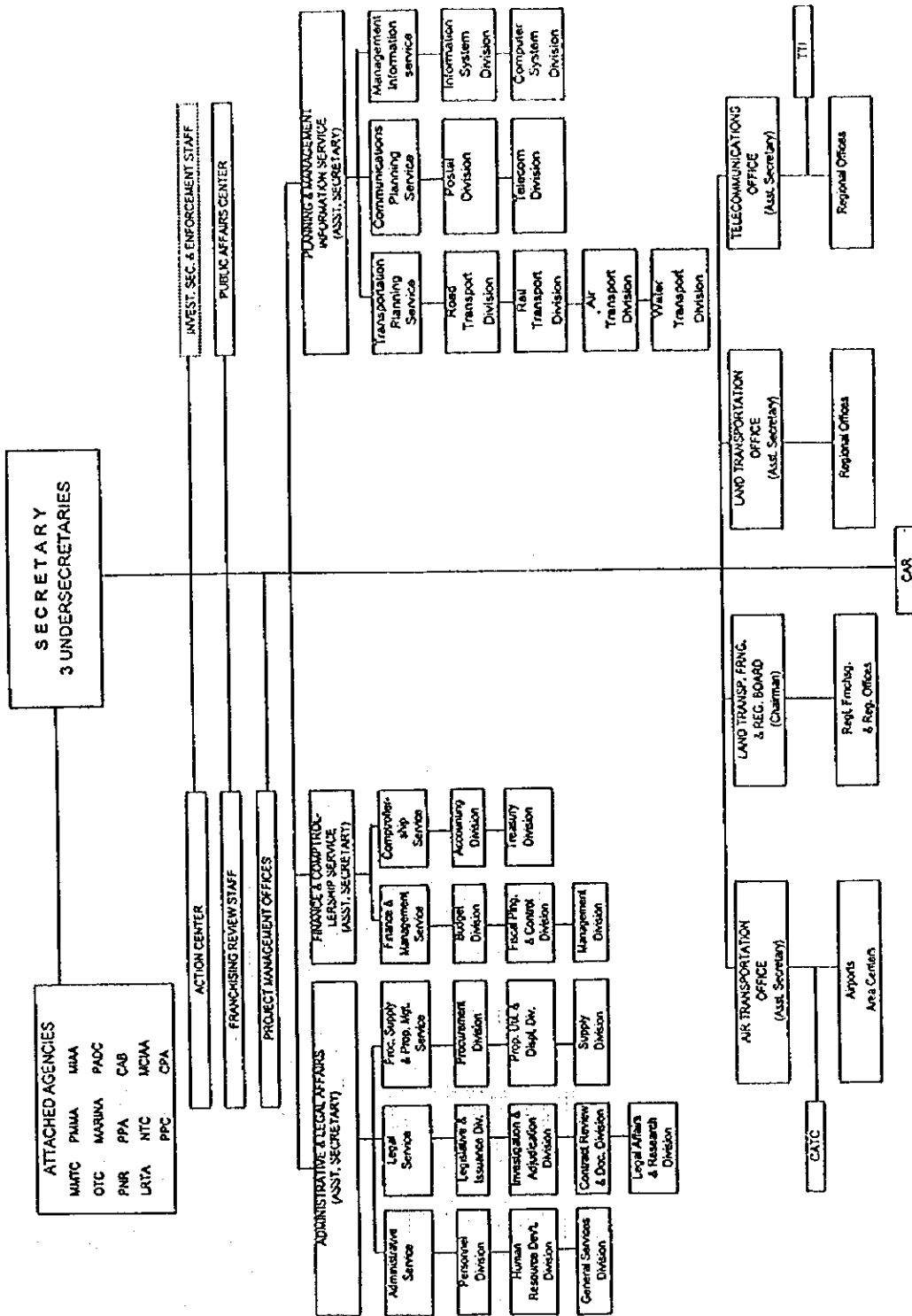


図3.1.1.1 運輸通信省 (DOTC) 組織図

資料：Data Book (ATO/IICA)

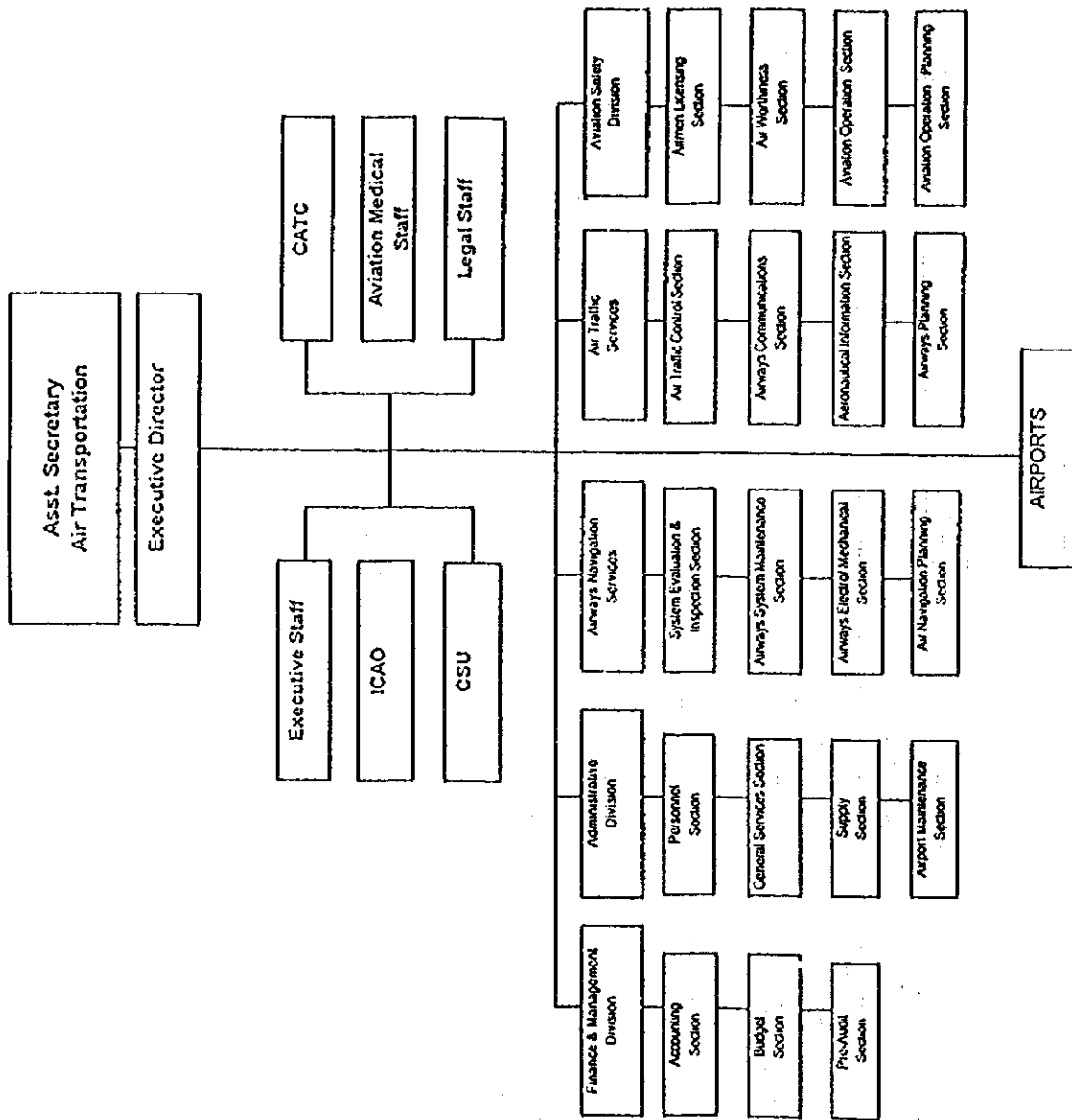
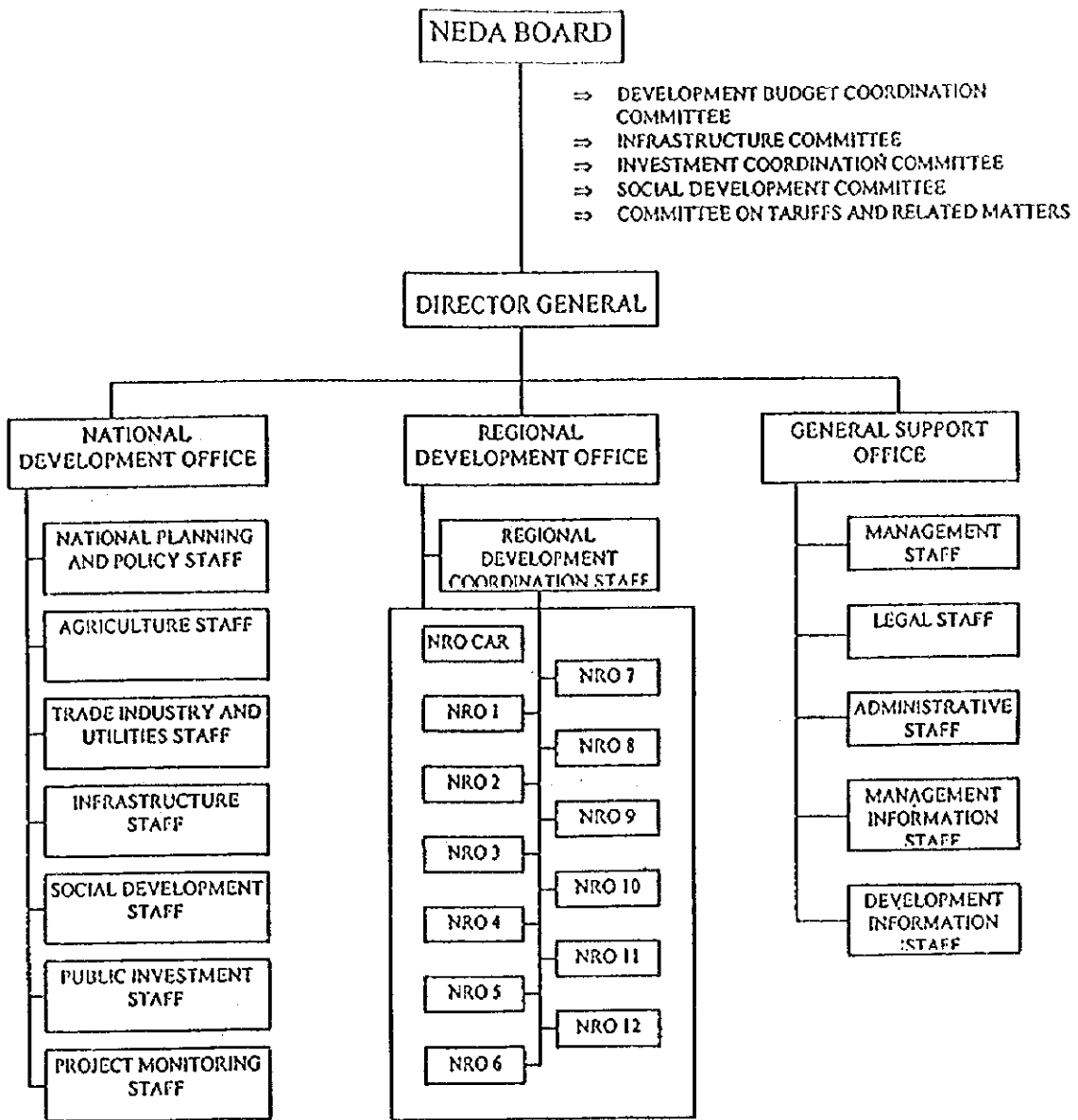


圖3.1.1.2 航空局 (ATO) 組織圖

資料：Data Book (ATO/IICA)



Source: NEDA

図3.1.3 国家経済開発庁 (NEDA) 組織図

資料: Data Book (ATO/JICA)

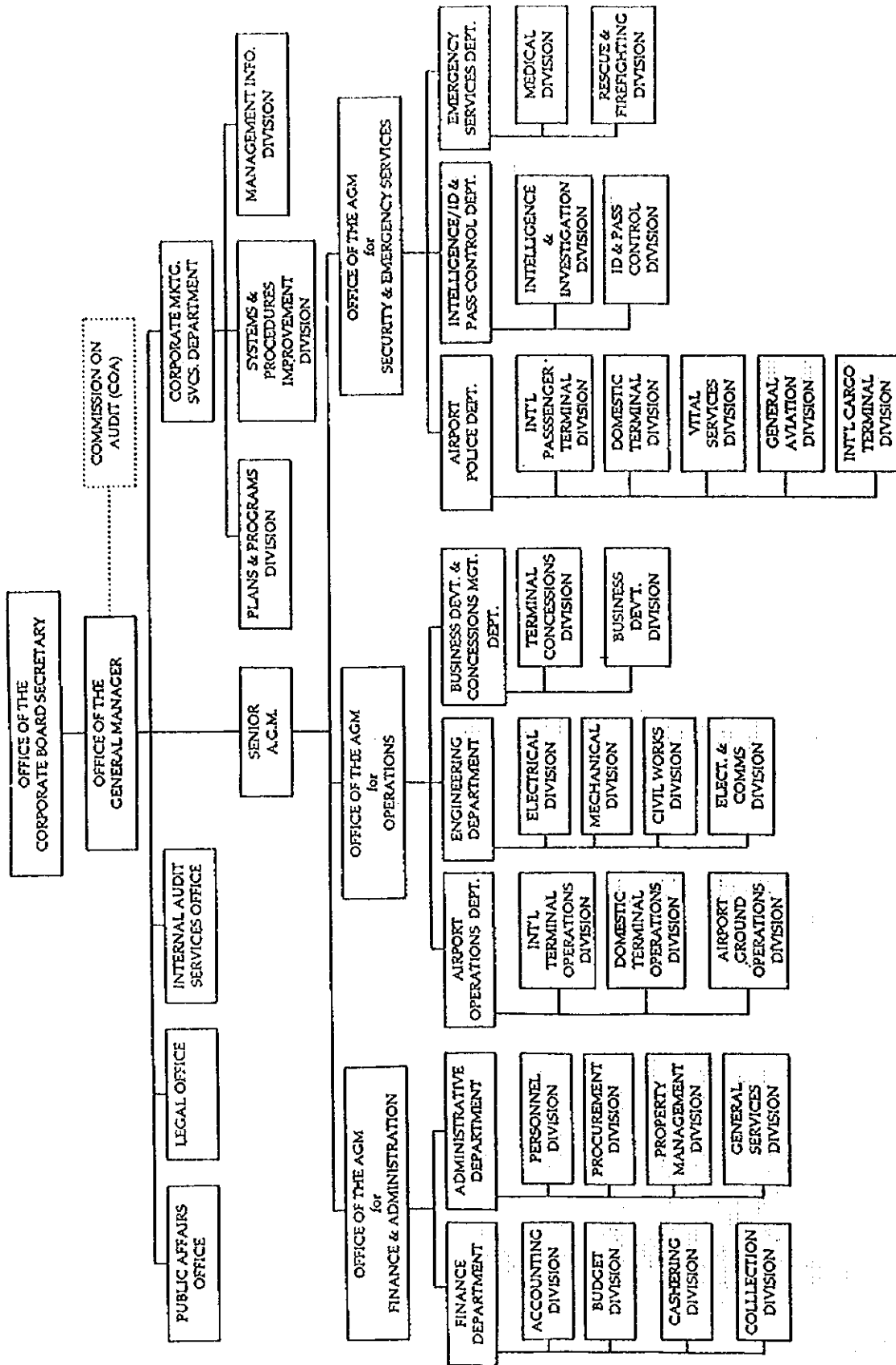


図3.1.1.4 マニラ空港 (NAIA) 組織図

資料：Data Book (ATO/JICA)

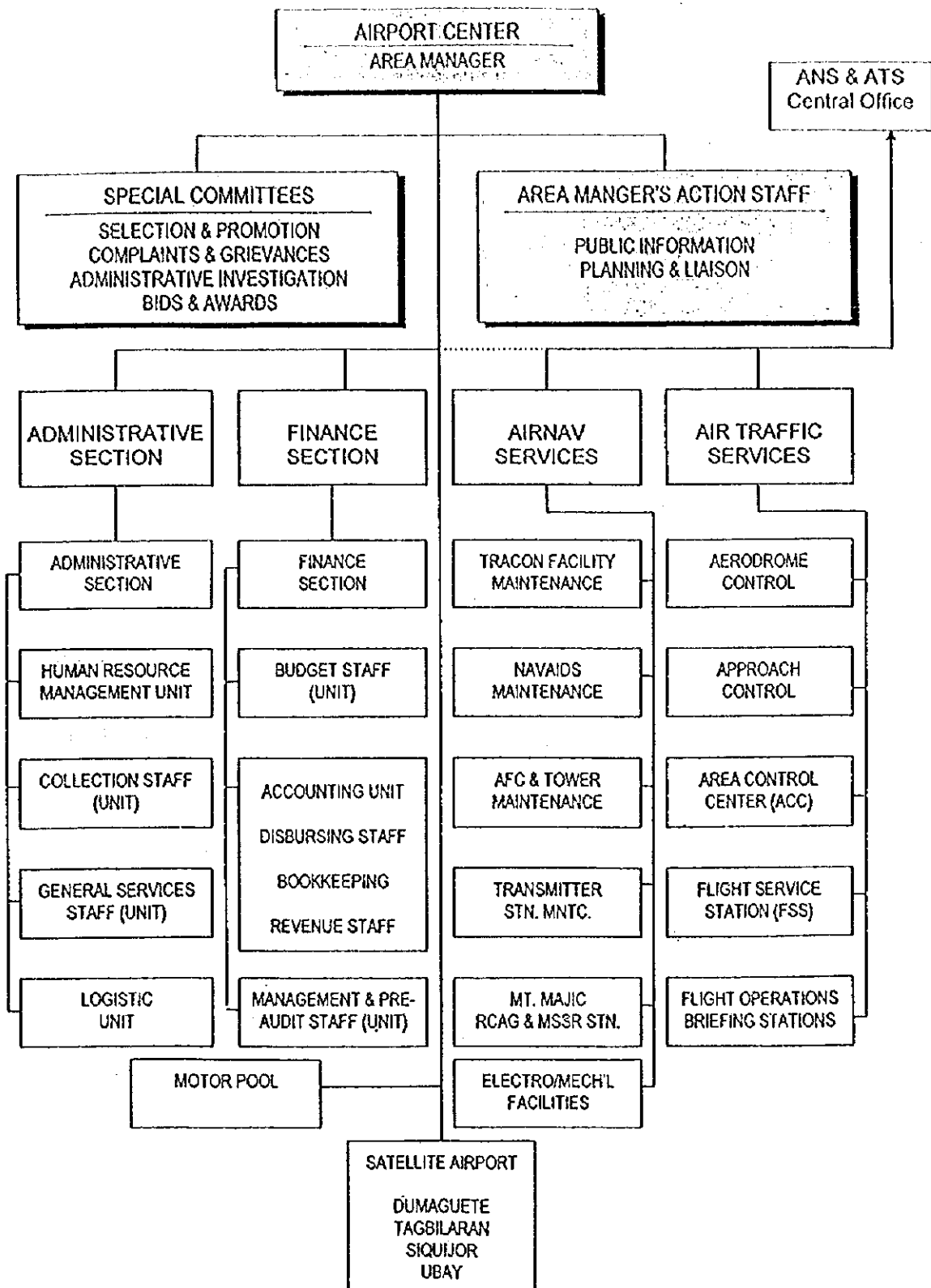


図3.1.5 マクタン (MACTAN) 空港組織図

資料：Data Book (ATO/JICA)

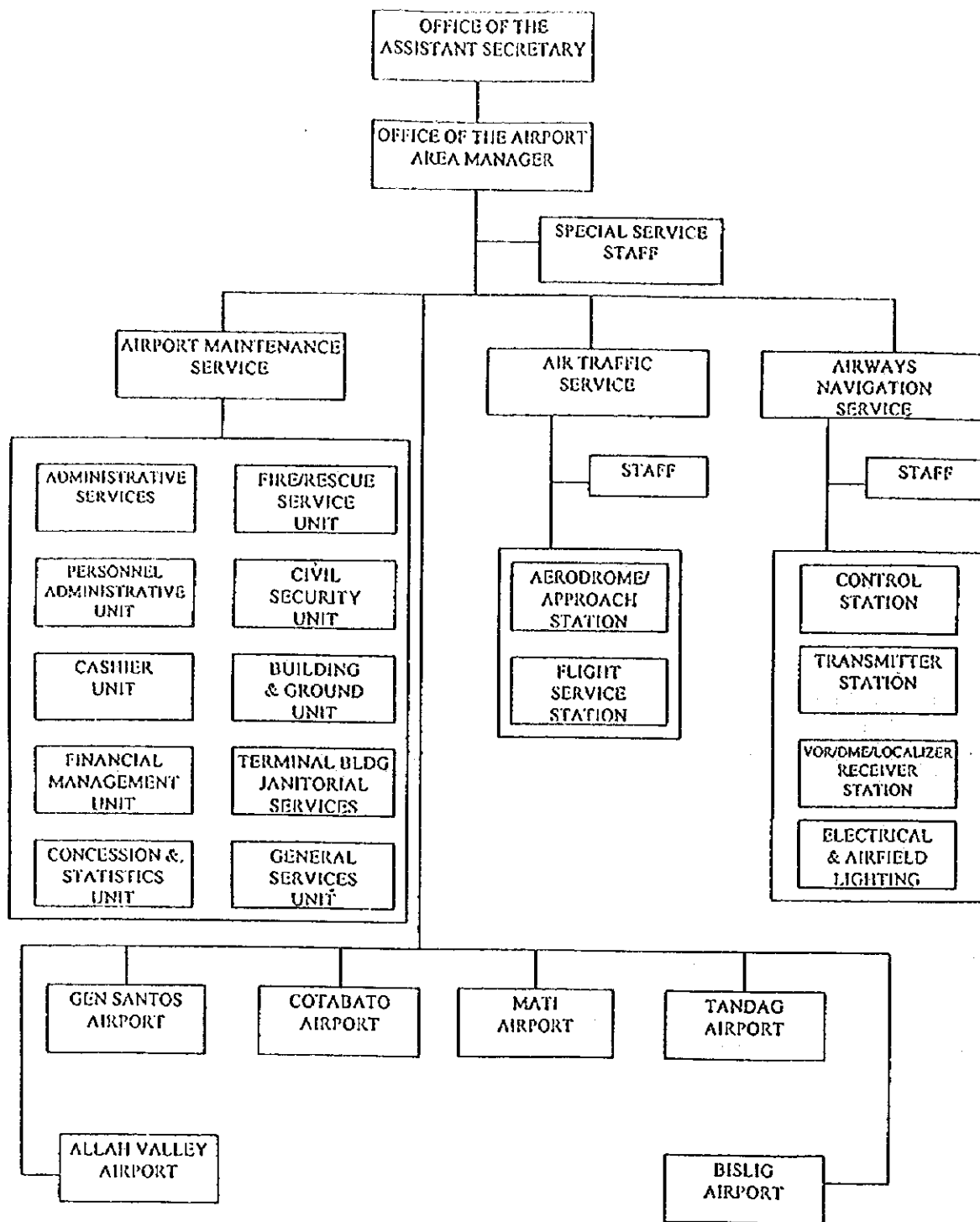


図3.1.6 ダバオ (DAVAO) 空港組織図

資料：Data Book (ATO/JICA)

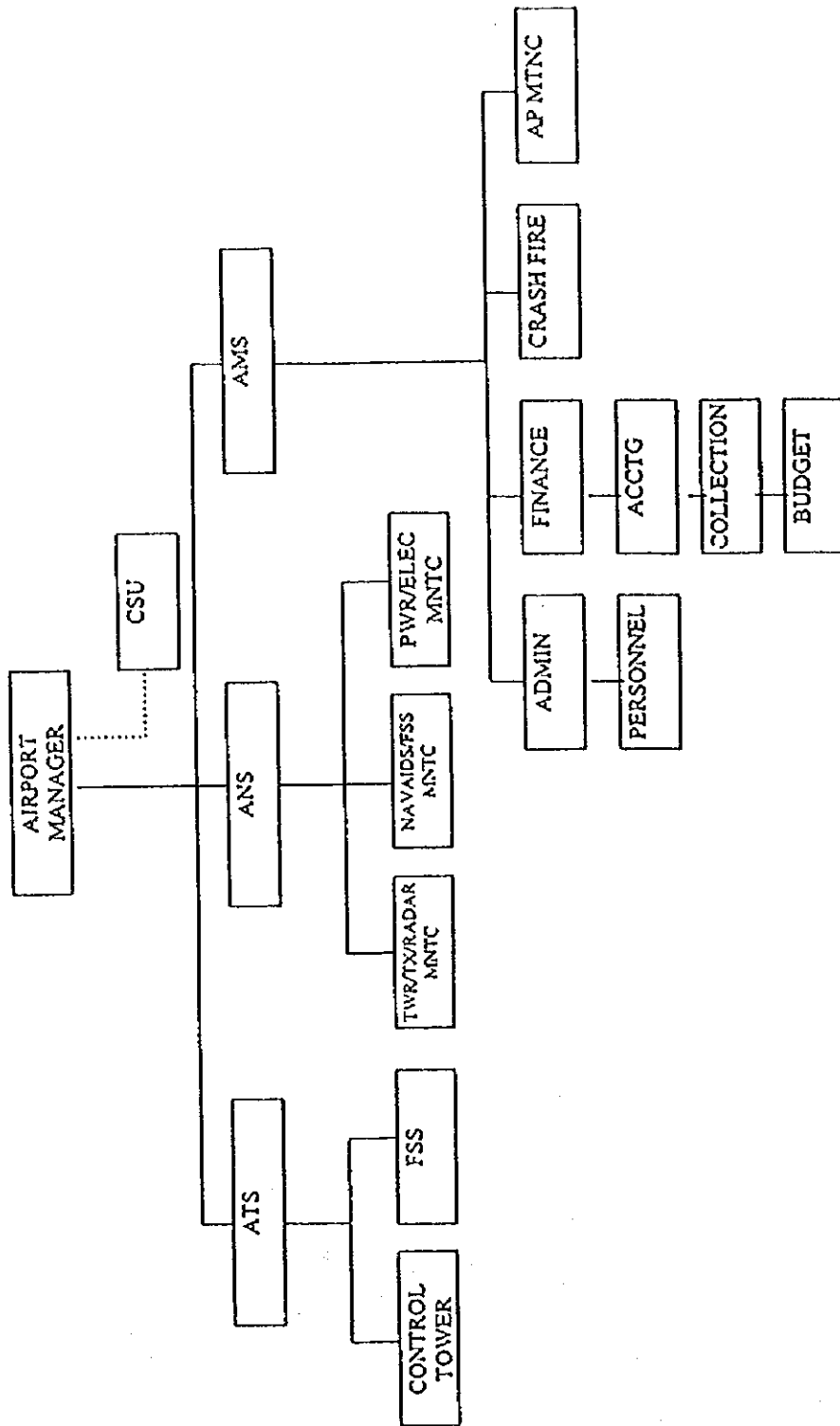


図3.1.7 ラオアグ (LAOAG) 空港組織図

資料 : Data Book (ATO/JICA)

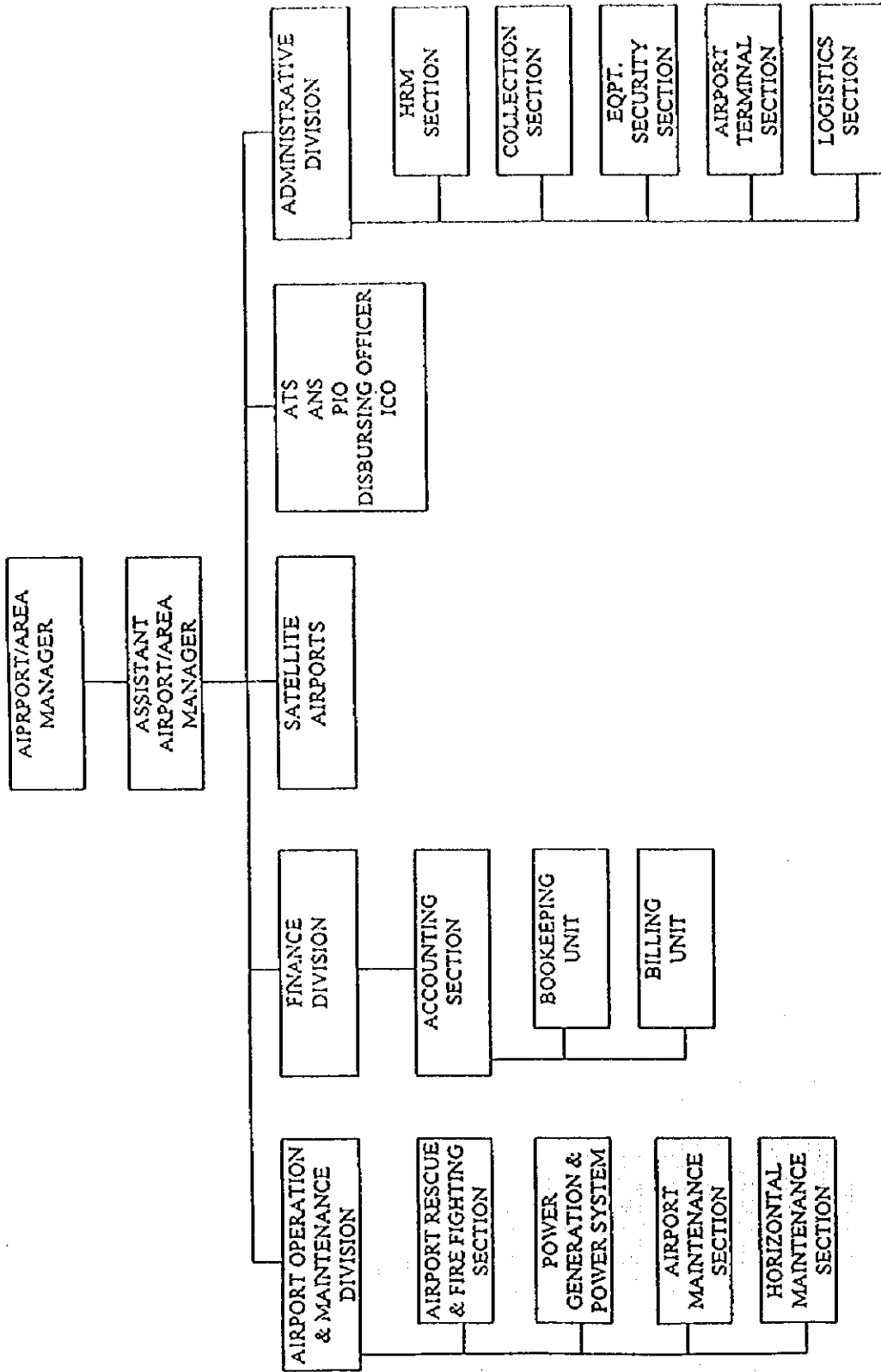
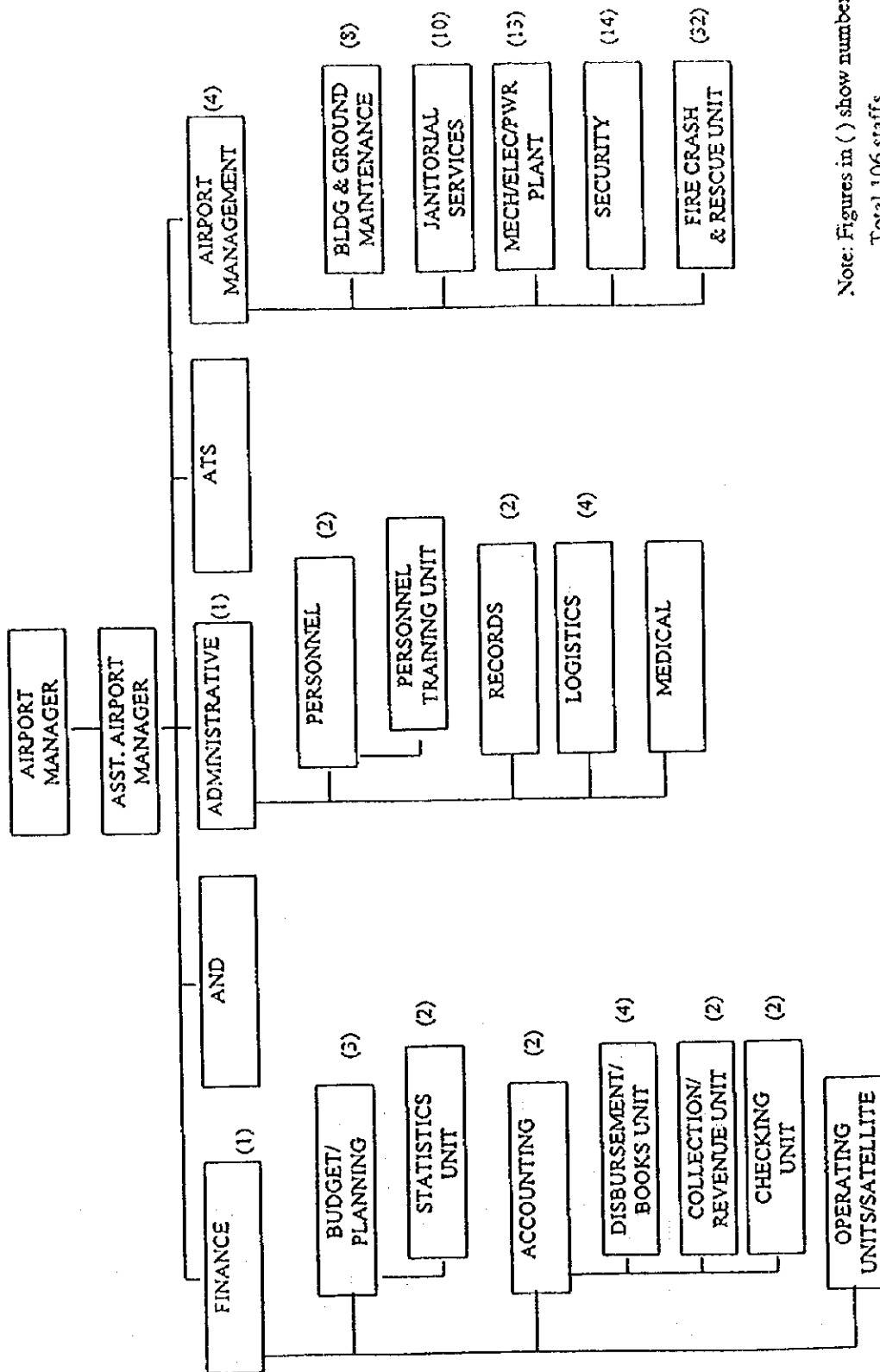


図3.1.1.8 カガヤンデオロ (CAGAYAN DE ORO) 空港組織図

資料 : Data Book (ATO/JICA)

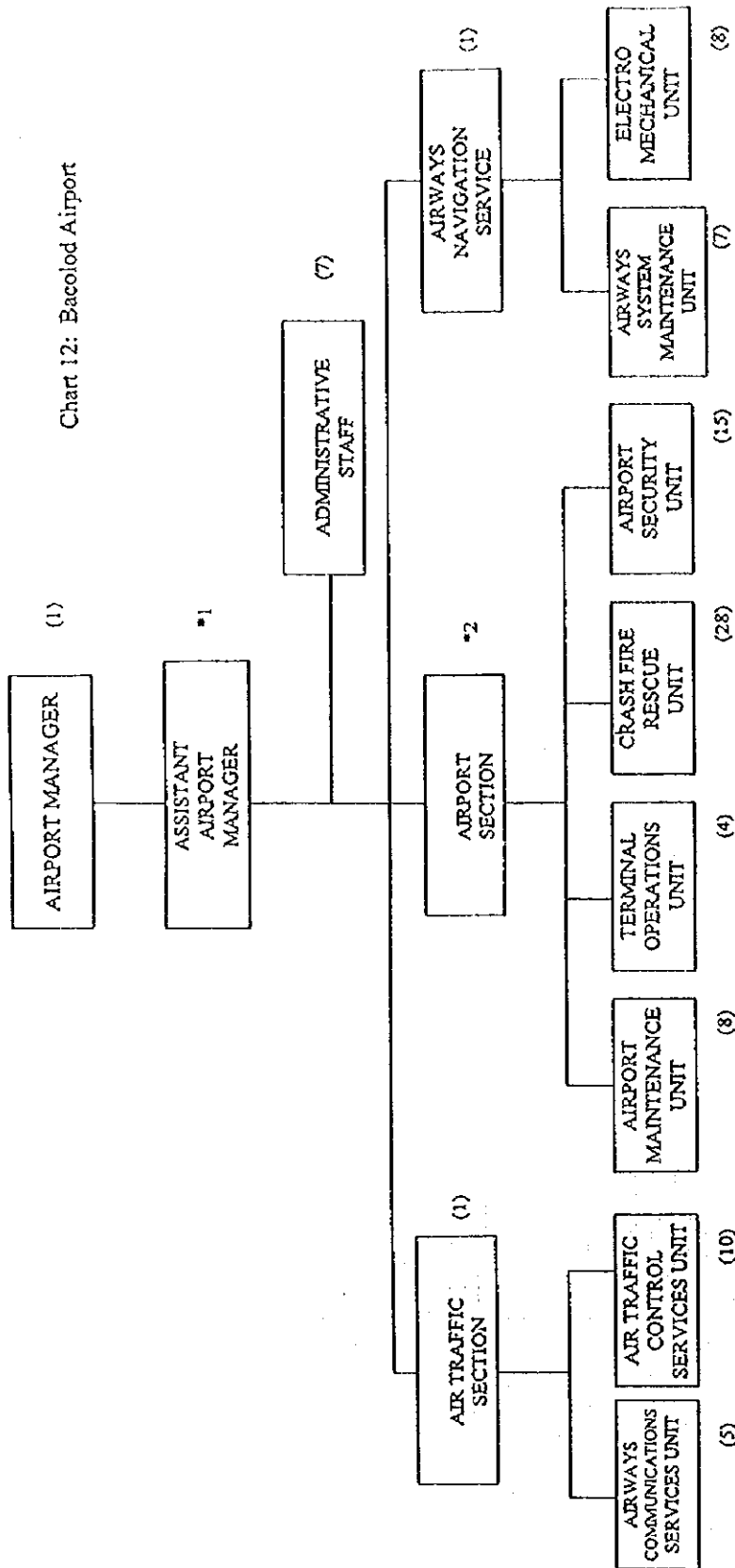


Note: Figures in () show numbers of staff
Total 106 staffs

図3.1.9 ザンボアング (ZAMBOANGA) 空港組織図

資料: Data Book (ATO/JICA)

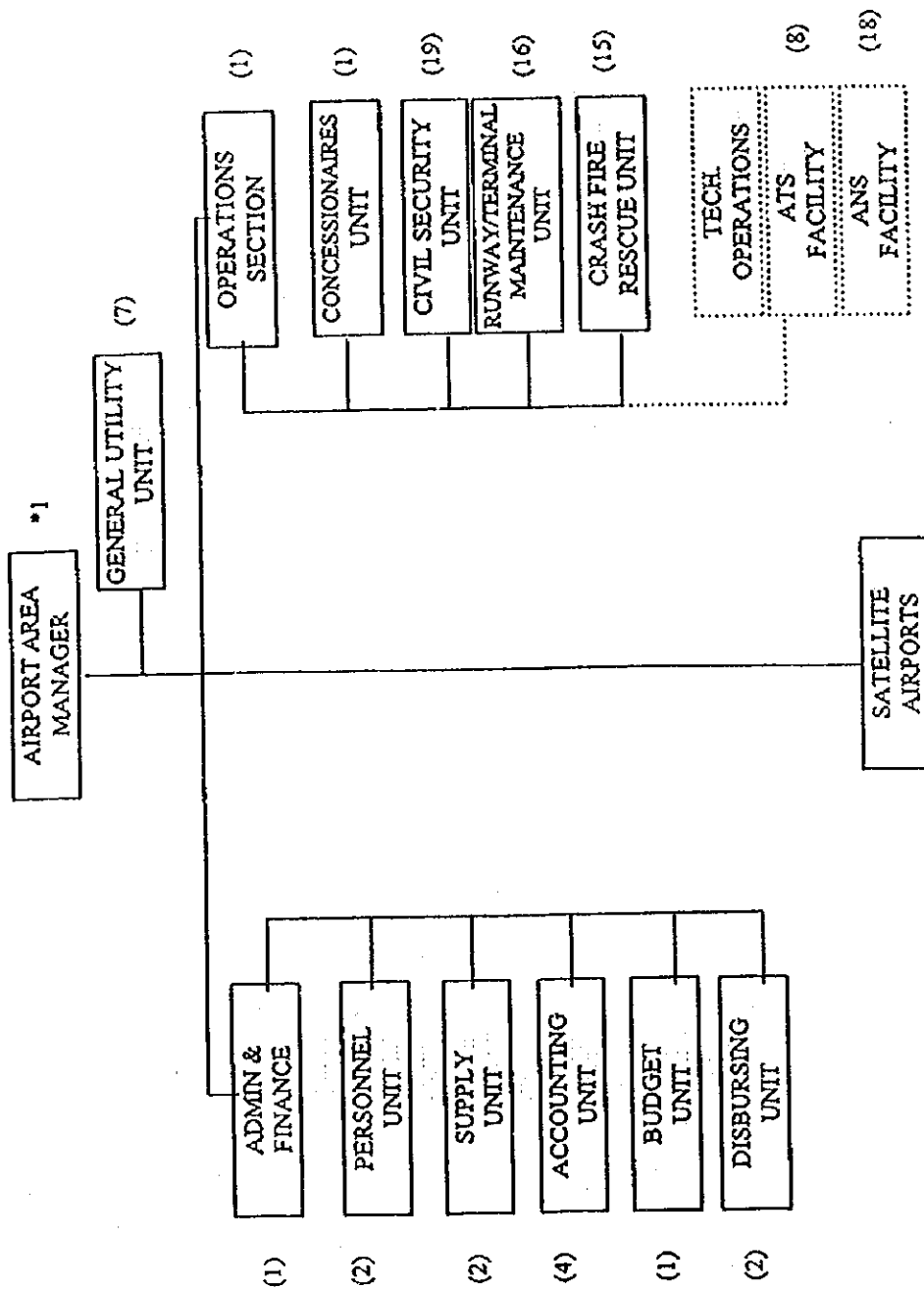
Chart 12: Bacolod Airport



Note: Figures in () show number of staff.
 Total 95 staff.
 *1: Chief of Air Traffic Section holds this position at present.
 *2: Airport Manager holds this Position at present.

図3.1.10 バコロド (BACOLOD) 空港組織図

資料：Data Book (ATO/IICA)

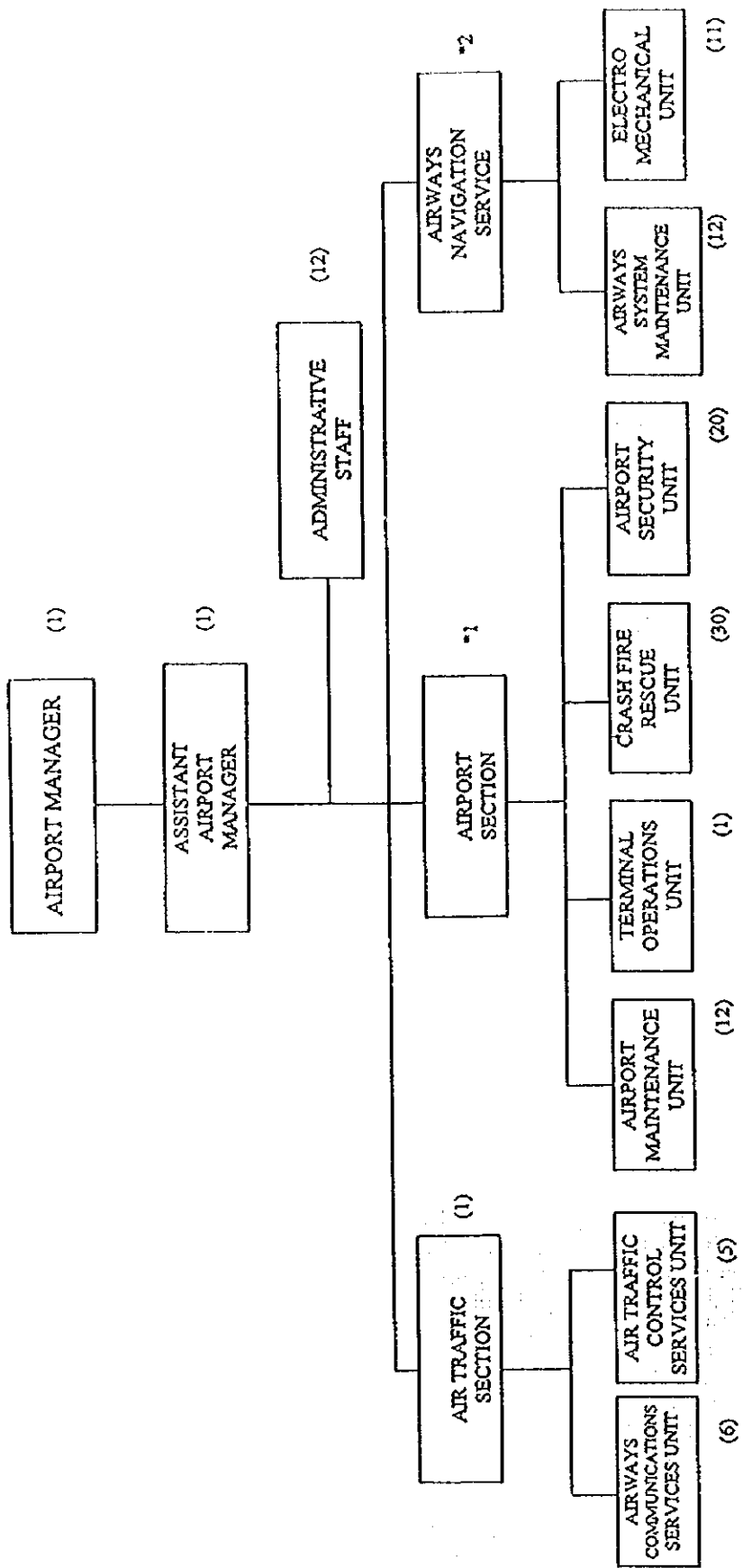


Note: Figures in () show numbers of staff
Total 97 staff.

*1: Chief of Operations Section is an active airport manager.

図3.1.11 タクロバン (TACLOBAN) 空港組織図

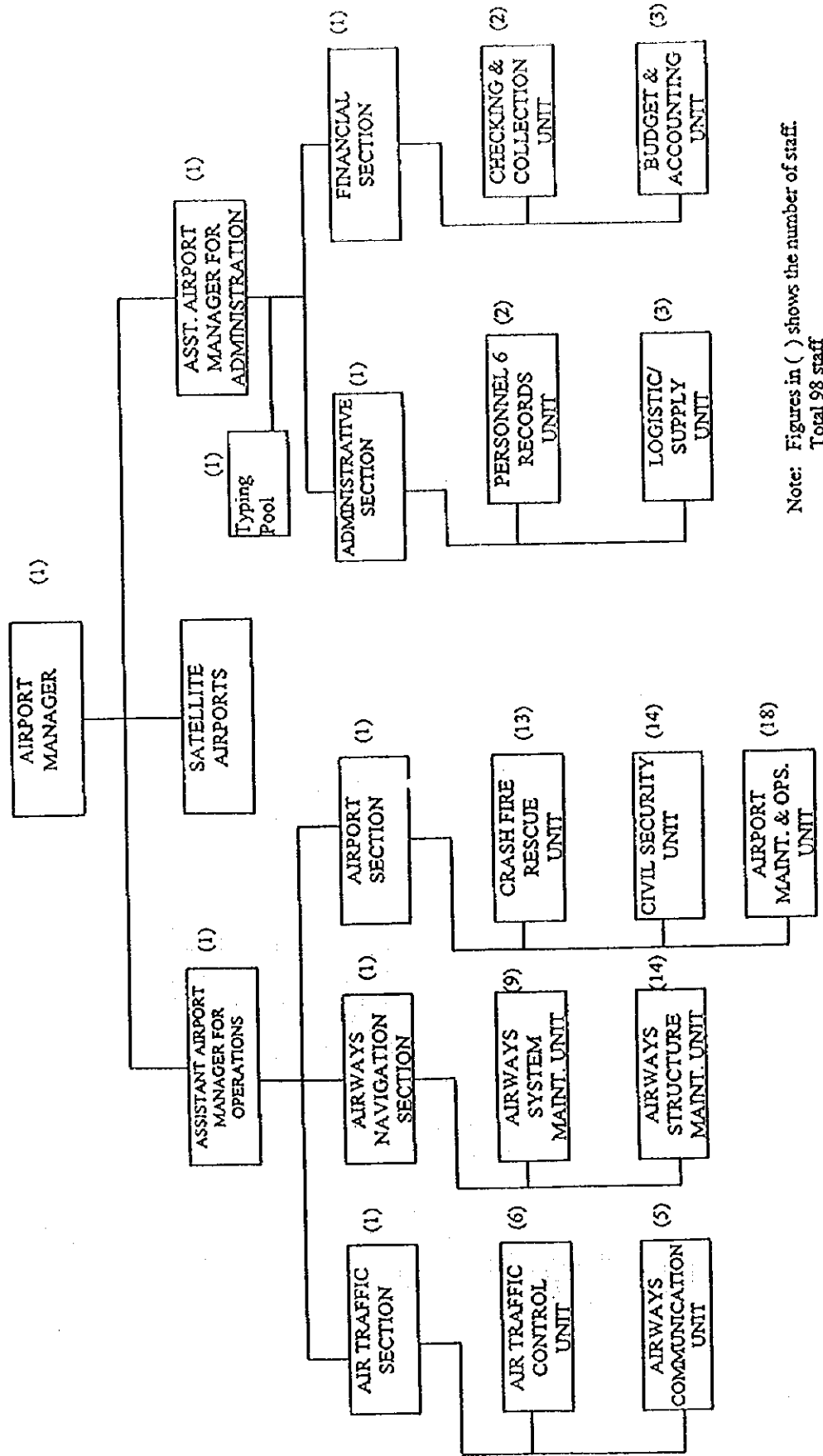
資料: Data Book (ATO/JICA)



Note: Figures in () show number of staff.
 Total 112 staff.
 *1: Airport Manager holds this position at present.
 *2: Not manned at present.

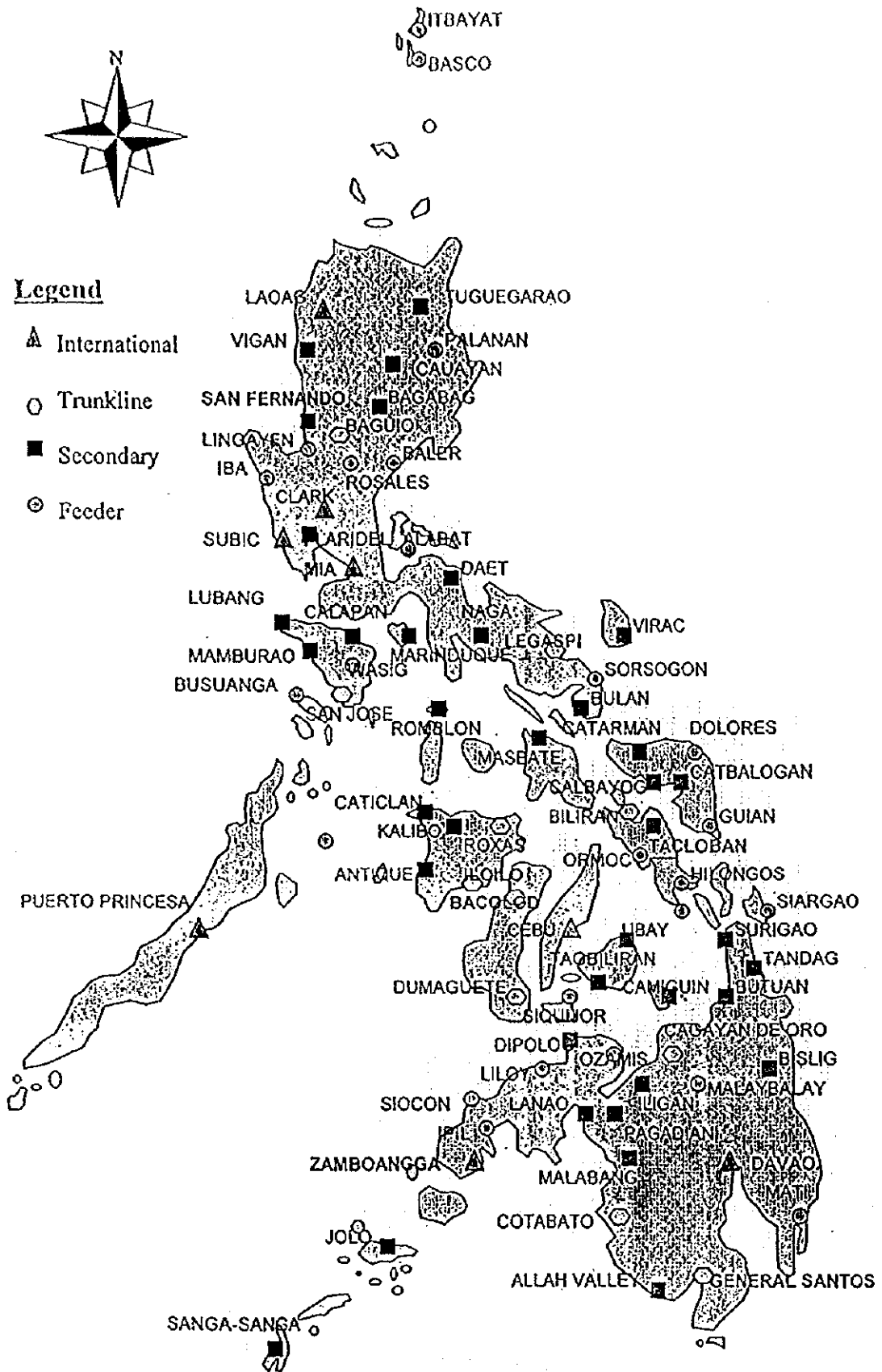
図3.1.12 イロイロ (ILOILO) 空港組織図

資料: Data Book (ATO/JICA)



Note: Figures in () shows the number of staff.
Total 98 staff

図3.1.13 レガスピ (LEGASPI) 空港組織図



Source: Airways Maintenance Section
Air Navigation Service, ATO

图3.1.14 空港位置图

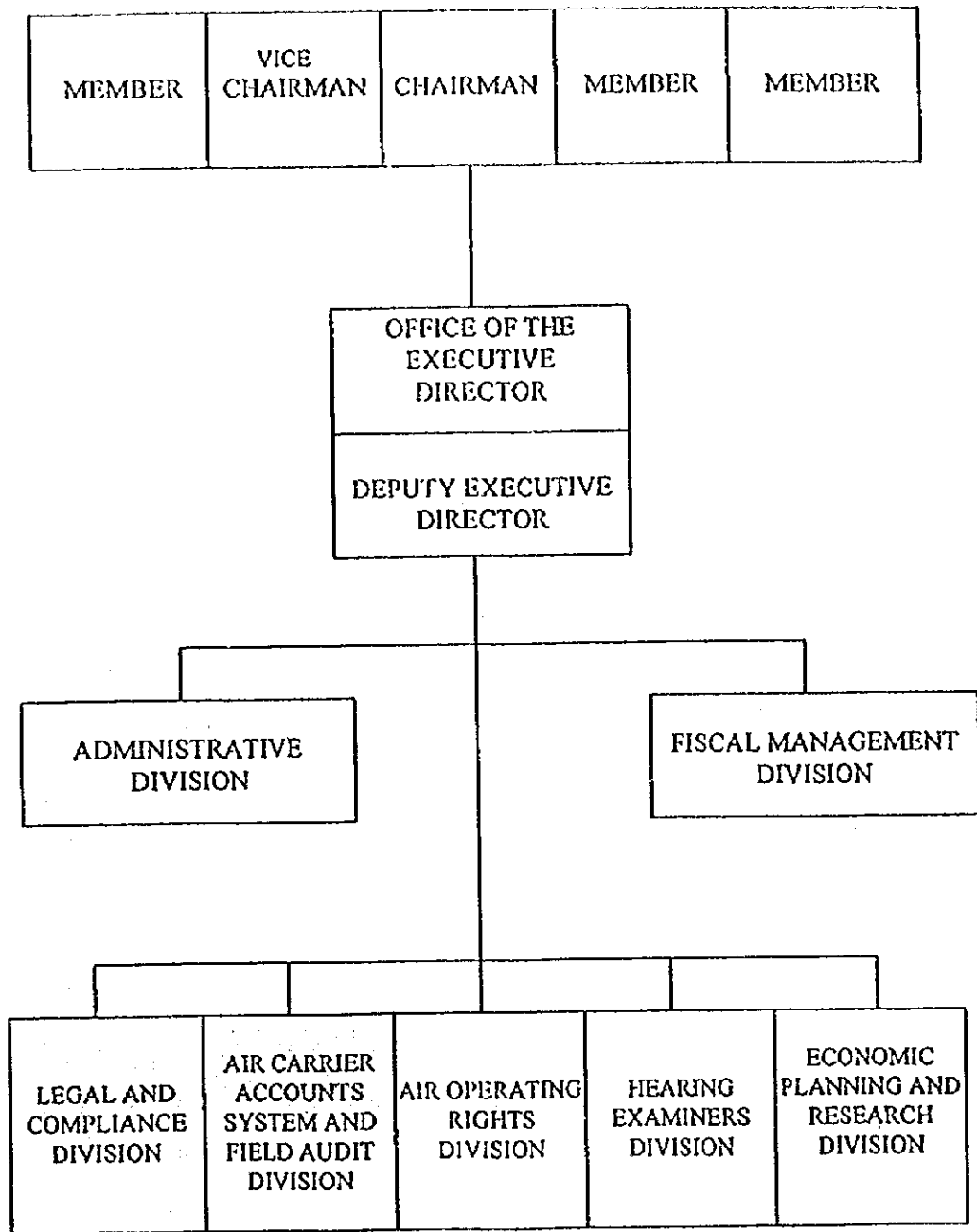


図3.1.15 民間航空委員会 (CAB) 組織図

資料：Data Book (ATO/JICA)

表3.1.1(1) 国内線航空会社一覧表

DOMESTIC OPERATORS		(As of June 20, 1997)
NAME OF OPERATOR	DATE APPROVED	EXPIRY DATE OF PERMIT
DOMESTIC SCHEDULED OPERATORS		
1. Philippine Airlines, Inc. *		
2. Aerolift Philippines Corporation	January 28, 1993	January 28, 1998
3. Air Philippines Corporation	June 04, 1997	June 04, 2002
4. Airline Employees Cooperative (Asian Spirit)	May 23, 1996	May 23, 2001
5. Cebu (Pacific) Air, Inc. *	June 4, 1997	June 4, 2002
6. Corporate Air, Inc. ***	TOP April 30, 1997	October 30, 1997
7. Grand International Airways, Inc.	April 20, 1997	April 20, 2002
8. Star Asia Airways Corporation	November 11, 1993	November 11, 1998
DOMESTIC NON-SCHEDULED/CHARTER OPERATORS		
1. A. Soriano Air Corporation	August 27, 1994	August 27, 1999
2. Aboitiz Air Transport	August 03, 1994	August 03, 1999
3. Air Ads, Inc.	February 04, 1993	February 04, 1998
4. Air Link International Philippines, Inc.	September 03, 1993	September 03, 1998
5. Air Services Cooperative	November 25, 1992	November 25, 1997
6. Air Siquijor, Inc.	September 29, 1994	September 29, 1999
7. Airspan Corporation	August 08, 1992	August 08, 1997
8. Asia Aircraft Overseas Philippines, Inc.	March 30, 1997	March 30, 2002
9. Ayala Corporate	March 11, 1993	March 11, 1998
10. Avia Filipinas International, Inc.	February 13, 1992	February 13, 1997
11. Card's Air Services, Inc. (R.G. Air)	October 28, 1993	October 28, 1998
12. Chemtrad Aviation Corporation **	October 16, 1996	October 16, 2001
13. Cheries Flying School	September 18, 1996	September 18, 2001
14. C.M. Aero Services	March 10, 1993	March 10, 1998
15. Commercial Air Transport	September 29, 1994	September 29, 1999
16. Comuter Air Philippines	September 03, 1993	September 03, 1998
17. Cyclone Airways, Inc.	September 29, 1994	September 29, 1999
18. Davao Agritech, Inc. **	December 05, 1996	December 05, 2001
19. Diamond Air, Inc.	December 08, 1994	December 08, 1999
20. Jaka Transport Corporation	August 18, 1994	August 18, 1999
21. Executive & Tourist Aviation, Inc.	April 14, 1993	April 14, 1998
22. Gloria Air Services	December 22, 1994	December 22, 1999
23. Gumayan Air Charter Services	January 27, 1992	January 27, 1997
24. House of Travel, Inc.	March 04, 1993	March 04, 1998
25. Icarus Air, Inc.	February 18, 1993	February 18, 1998
26. Interisland Resort & Services, Inc.	June 10, 1993	June 10, 1998
27. Island Aviation, Inc.	July 13, 1995	July 13, 2000
28. Jac-Pat Marine Corporation	July 15, 1993	July 15, 1998
29. JMB Aircraft Corporation	October 07, 1993	October 07, 1998

表3.1.1(2) 国内線航空会社一覽表

DOMESTIC OPERATORS		(As of June 20, 1997)
NAME OF OPERATOR	DATE APPROVED	EXPIRY DATE OF PERMIT
DOMESTIC NON-SCHEDULED/CHARTER OPERATORS		
30. KSF Aviation Philippines, Inc.***	TOP May 23, 1996	August 23, 1996
31. Laoag International Airlines, Inc.	September 07, 1996	September 07, 2000
32. L & L Jet Aviation Corporation	March 29, 1996	March 29, 2001
33. Mabuhay Airways Philippines, Inc.	January 13, 1994	January 13, 1999
34. Macroasia Air Taxi Services, Inc.	September 18, 1996	September 18, 2001
35. Nothern Air Services	May 12, 1992	May 12, 1997
36. Negros Air Transport Cooperative	November 24, 1995	November 24, 2000
37. Pacific Airways Corporation	May 19, 1993	May 19, 1998
38. Pacificair Transport Services Cooperative	Nov 7, 1996	Nov 7, 2001
39. Philippine Aerospace Development Corp.	Government Owned	
40. Philippine Agricultural Aviation Corp.	October 31, 1992	October 31, 1997
41. Philippine Eagle Airlines	April 07, 1994	April 07, 1999
42. Royal Star Aviation	October 06, 1995	October 06, 2000
43. Silangan Airways, Inc.***	TOP	
44. South Star Aviation Company, Inc.	July 01, 1993	July 01, 1998
45. Southern Air Transport Corporation**	December 26, 1991	December 26, 1998
46. Subic International Air Services, Inc.	November 24, 1995	November 24, 2000
47. Sundia Aircraft Services Corporation	March 04, 1993	March 04, 1998
48. Swift Air, Inc.	July 07, 1993	July 07, 1998
49. Transglobal Aviation, Inc.**	April 15, 1992	April 15, 1997
50. Victoria Air, Inc.	December 04, 1992	December 04, 1997
51. Vision Air Flight Support, Inc.	July 30, 1996	July 30, 2001
52. Seair, Incorporated	August 8, 1995	August 8, 2000

* With Congressional Franchise on file

** Pending application for renewal

*** TOP - Temporary Operating Permit

Source:
Civil Aeronautics Board

表3.1.2 國際線定期便航空会社一覽表

List of International Scheduled Airlines						
(As of June, 1997)						
NO.	Airline Code		Air Lines	City Code		Nation
	IATA	ICAO				
1.	AF	AFR	Air France	CDG	Charles De Gaulle	France
2.	ON	RON	Air Nauru	INU	Nauru	Nauru Island
3.	NZ	ANZ	Air New Zealand	WLG	Wellington	New Zealand
4.	PX	ANG	Air Niugini	POM	Port Moursby	Niugini
5.	AZ	AZA	Alitalia	ROM	Rome	Italy
6.	OZ	AAR	Asiana airlines	SEL	Seoul	Korea
7.	BA	BAW	British Airways	LON	Heathrow	London
8.	CP	CDN	Canadian Airlines	YOW	Ottawa	Canada
9.	CX	CPA	Cathay Pacific Airways	HKG	Hongkong	China
10.	CI	CAL	China Airlines	BJS	Beijing	China
11.	CS	CSN	China Southern Airlines	KHH	Kaohsiung	China
12.	CO	CMI	Continental Micronesia Inc.	SEA	Seattle	U.S.
13.	MS	MSR	Egyptair	CAI	Cairo	Egypt
14.	EK	UAE	Emirates Air	AUH	Abu Dhabi	United Arab
15.	BR	EVA	Eva Air	TPE	Taipei	Taipei
16.	FX	FDX	Federal Express Corporation *	HOU	Houston	U.S.
17.	GA	GIA	Garuda Indonesian Airlines	CGK	Seokarno Hatta Airport	Indonesia
18.	8L	GDI	Grand International Airways	MNL	Manila	Philippines
19.	GF	GFA	Gulf Air	BAH	Bahrain	Gulf
20.	JL	JAL	Japan Airlines	TYO	Tokyo	Japan
21.	KL	KLM	KLM Royal Dutch Airlines	AMS	Amsterdam	Netherlands
22.	KE	KAL	Korean Air	SEL	Seoul	korea
23.	KU	KAC	Kuwait Airways	KWI	Kuwait	Kuwait
24.	LH	DLH	Lufthansa German Airlines	FRA	Frankfurt Int'l Airport	Germany
25.	MH	MAS	Malaysian Airline System	KUL	Kuala Lumpur	Malaysia
26.	NH	NCA	Nippon Cargo Airlines *	NGO	Nagoya	Japan
27.	NW	NWA	Northwest Airlines	ORD	Chicago	U.S.
28.	BO	BOU	P. T. Bouraq Airlines	JKT	Jakarta	Indonesia
29.	PK	PIA	Pakistan International Airlines	KHI	Karachi	Pakistan
30.	PR	PAL	Philippine Airlines	MNL	Manila	Philippines
31.	QF	QFA	Qantas Airways	SYD	Sydney	Australia
32.	Q7	QTR	Qatar Airways Company	DOH	Doha	Qatar
33.	BI	RBA	Royal Brunei Airlines	BWN	Bandar Seri Begawan	Brunei
34.	SV	SVA	Saudi Arabian Airlines	RUH	Riyadh	Saudi Arabia
35.	SQ	SIA	Singapore Airlines	SIN	Singapore	Singapore
36.	SK	SLK	Silkair (Singapore) Pts., Ltd.	SIN	Chiangi	Singapore
37.	SR	SWR	Swissair Transport Company	ZRH	Zurich	Switzerland
38.	TG	THA	Thai Airways International	BKK	Bangkok	Thailand
39.	UA	UAL	United Airlines, Inc.	NYC	New York	U.S.
40.	VN	VNA	Vietnam Airlines	SGN	Ho Chi Minh	Vietnam

* All Cargo Carrier

Source:

- ABC World Airways Guide
- ICAO Doc. 8585

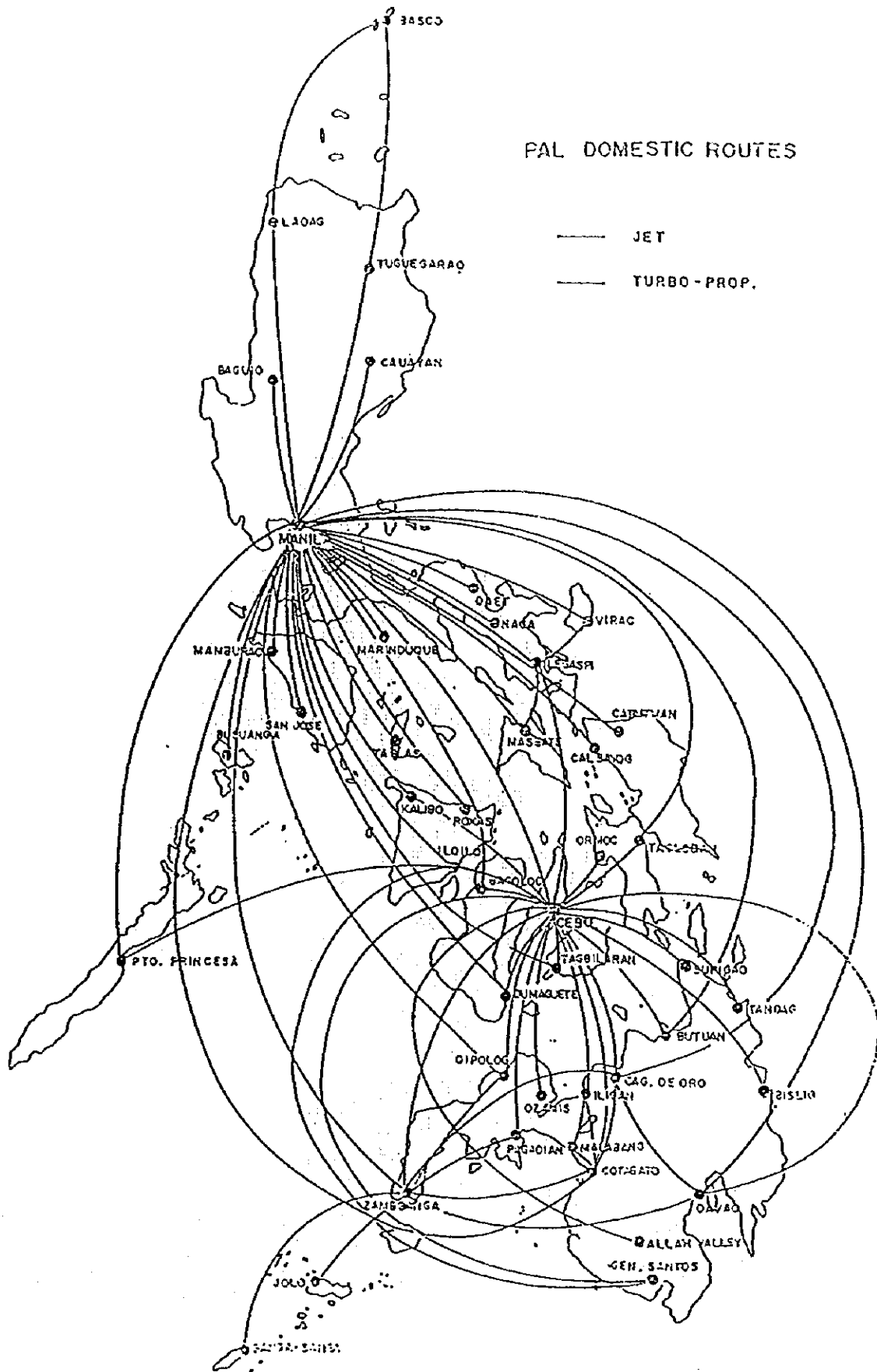


図3.1.16 フィリピン航空国内路線図 (PAL)

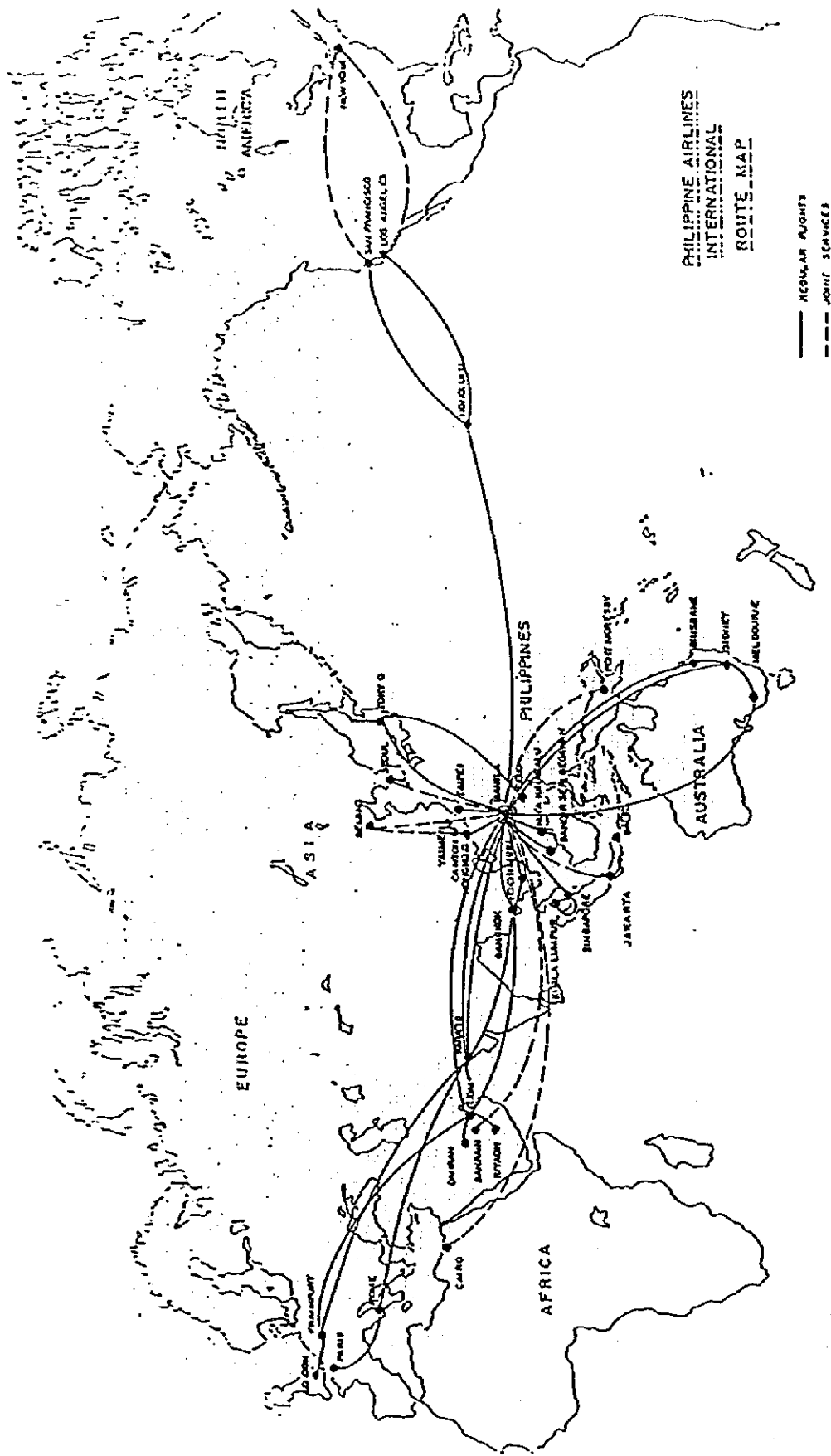


図3.1.17 フィリピン航空国際路線図 (PAL)

表3.2.1 全国航空輸送の動向

Passenger Movement			1990	1991	1992	1993	1994	1995	1996
Item/Year									
International	Manila		4,367,357	4,529,449	5,235,607	5,671,630	6,116,923	6,660,008	7,297,108
	Cebu		53,189	57,998	97,842	172,966	224,602	306,203	354,818
	Total		4,420,546	4,587,447	5,333,449	5,844,596	6,340,625	6,866,211	7,651,926
	%		-	3.8%	16.3%	9.6%	8.5%	8.3%	11.4%
Domestic	Manila		3,147,361	3,075,215	3,287,446	3,530,958	3,831,218	4,308,874	4,986,164
	Cebu		1,541,891	1,401,671	1,592,173	1,635,779	1,714,104	1,941,904	2,047,566
	Others		3,765,342	3,210,582	3,690,638	3,890,342	4,197,733	4,306,486	4,692,627
	Total		8,444,694	7,687,468	8,570,267	9,047,079	9,743,056	10,457,264	11,726,267
	%		-	-8.3%	10.6%	1.9%	9.6%	8.9%	12.1%
Grand Total		12,866,140	12,274,916	13,903,706	14,891,676	16,083,680	17,323,476	19,378,183	

Cargo Movement (Ton)			1990	1991	1992	1993	1994	1995	1996
Item/Year									
International	Manila		185,095	179,680	193,915	212,152	231,992	274,839	290,660
	Cebu		593	671	2,217	10,956	13,799	15,192	10,863
	Total		186,588	180,257	196,132	223,107	245,791	290,031	301,443
	%		-	-3.3%	8.6%	12.1%	10.1%	13.8%	3.7%
Domestic	Manila		80,651	73,963	71,369	78,668	60,097	70,683	100,020
	Cebu		25,376	22,704	24,157	30,503	35,488	37,168	38,607
	Others		86,106	54,431	72,039	49,638	77,225	69,604	74,436
	Total		192,133	151,098	167,565	158,809	172,810	186,460	212,963
	%		-	-21.4%	9.1%	-5.6%	8.2%	7.3%	12.6%
Grand Total		378,721	331,355	363,697	381,916	418,601	476,491	514,406	

Aircraft Movement			1990	1991	1992	1993	1994	1995	1996
Item/Year									
International	Manila		26,243	25,828	29,874	32,437	35,702	37,311	43,612
	Cebu		958	786	919	1,508	2,109	2,565	3,078
	Total		26,201	26,614	30,793	33,945	37,811	39,876	46,590
Domestic	Manila		101,337	86,307	95,099	90,434	97,269	108,683	125,101
	Cebu		24,237	22,496	22,533	18,141	18,101	18,854	21,138
	Others		150,635	116,573	121,522	98,655	117,391	118,562	125,855
	Total		276,209	225,376	239,154	207,230	232,851	246,099	272,094
	%		-	-18.1%	8.6%	-10.5%	11.1%	9.7%	11.8%
Grand Total		302,410	251,989	269,947	241,175	270,662	286,975	318,684	

Annual Movement - Passenger/Cargo/Aircraft			1990	1991	1992	1993	1994	1995	1996
Item/Year									
Passenger	International		4,420,546	4,587,447	5,333,449	5,844,596	6,340,625	6,866,211	7,651,926
	Domestic		8,444,594	7,687,468	8,570,257	9,047,079	9,743,056	10,457,264	11,726,257
	Total		12,866,140	12,274,916	13,903,706	14,891,676	16,083,680	17,323,476	19,378,183
Cargo	International		186,588	180,257	196,132	223,107	245,791	290,031	301,443
	Domestic		192,133	151,098	167,565	158,809	172,810	186,460	212,963
	Total		378,721	331,355	363,697	381,916	418,601	476,491	514,406
Aircraft	International		26,201	26,614	30,793	33,945	37,811	39,876	46,590
	Domestic		276,209	225,376	239,154	207,230	232,851	246,099	272,094
	Total		302,410	251,989	269,947	304,176	270,662	286,975	318,684

International Aircraft Movement											
Item/Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Overfly	9,708	10,923	13,180	16,223	18,840	21,946	24,338	31,627	37,922	46,440	48,914
Inbound/Outbound	19,788	21,230	23,264	24,303	25,667	26,496	30,744	34,610	37,007	40,520	51,243
Total	29,496	32,153	36,444	40,526	44,507	48,441	55,082	66,237	74,929	86,960	100,157
Change	-	9.0%	13.3%	11.2%	9.8%	8.8%	13.7%	20.3%	13.1%	16.1%	15.2%

資料：Data Book (ATO/JICA)

表3.2.3 空港別貨物輸送の動向

Cargo Movement		1983	1984	1985	1986	1987	1988	1989	1990
I	Wanted (Total)	25,215,908	22,704,044	28,314,204	41,454,018	49,284,306	52,363,415	49,268,430	49,268,430
	International	25,215,908	22,704,044	24,157,020	30,503,230	35,487,642	31,168,287	31,168,287	31,168,287
II	Local	0	0	0	0	0	0	0	0
	Sub-Total	25,215,908	22,704,044	24,157,020	30,503,230	35,487,642	31,168,287	31,168,287	31,168,287
III	Manila (Total)	266,648,300	253,641,648	265,283,255	290,818,854	292,069,450	354,527,220	390,000,410	390,000,410
	International	185,295,000	179,582,248	183,314,535	212,151,824	211,292,282	274,859,940	290,560,000	290,560,000
IV	Local	80,851,300	73,863,400	71,968,720	78,667,030	80,777,168	79,667,280	100,000,410	100,000,410
	Sub-Total	347,499,600	327,505,048	337,251,975	369,485,884	372,846,618	454,496,500	490,560,820	490,560,820
V	Legaspi	340,697	470,428	442,458	714,822	835,840	839,194	1,012,313	1,012,313
	Sub-Total	340,697	470,428	442,458	714,822	835,840	839,194	1,012,313	1,012,313
VI	Antique	6,048,945	4,411,290	5,405,821	6,262,770	5,245,774	1,581,724	8,205,200	8,205,200
	Sub-Total	6,048,945	4,411,290	5,405,821	6,262,770	5,245,774	1,581,724	8,205,200	8,205,200
VII	Combonet	4,892,284	4,831,871	4,159,631	5,832,244	4,125,412	4,922,217	4,618,163	4,618,163
	Sub-Total	4,892,284	4,831,871	4,159,631	5,832,244	4,125,412	4,922,217	4,618,163	4,618,163
VIII	F. Gonzalez (Davao)	22,351,000	18,067,770	19,837,816	18,213,136	19,290,845	23,150,560	21,919,343	21,919,343
	Sub-Total	22,351,000	18,067,770	19,837,816	18,213,136	19,290,845	23,150,560	21,919,343	21,919,343
IX	Surigao	178,000	209,710	233,954	371,085	419,672	277,565	242,159	242,159
	Sub-Total	178,000	209,710	233,954	371,085	419,672	277,565	242,159	242,159
GRAND TOTAL		378,828,027	320,716,098	362,075,230	401,916,229	418,209,507	476,492,007	511,472,813	511,472,813

表3.2.5 航空局職員数の構成 (1)

Summary of AUTHORIZED and FILLED POSITIONS as of JUNE, 1997					
POSITION	No. of Authorized Positions	Filled Positions	POSITION	No. of Authorized Positions	Filled Positions
Department Assistant Secretary	1	1	Budget Officer III	2	2
Director IV	1	1	Management & Audit Analyst III	1	1
Director II	2	2	Human Resource Mngt. Officer III	5	5
Director I	3	2	Administrative Officer III	1	1
Air Traffic Services Supervisor	6	3	Cashier III	1	1
Airways Com. Services Supervisor	4	3	Records Officer III	1	0
Air Navigation Services Supervisor	14	9	Supply Officer III	1	1
Legal Officer V	1	0	Sr. Aviation Safety Reg. Officer	22	21
Intelligence Officer V	1	1	Economist III	1	1
Chief Air Traffic Controller	23	17	Airways Communicator II	106	87
Chief Airways Communicator	17	12	Fire Marshall	2	1
Financial & Management Officer II	1	1	Credit Officer III	1	1
Administrative Officer V	1	0	Airways Communicator I	26	24
Chief Aviation Safety Reg. Officer	1	1	Legal Officer II	1	1
Chief Air Navigation System Specialist	29	16	Airport Project Supervisor	20	14
Airport Manager III	4	1	Air Navigation System Specialist I	120	83
Medical Officer VI	1	1	Executive Assistant II	1	1
Asst. Chief Air Nav. System Specialist	32	30	Medical Officer II	2	2
Asst. Chief Air Traffic Controller	16	14	Engineer II	15	9
Asst. Chief Airways Communicator	9	9	Architect II	1	0
Check Pilot IV	2	1	Psychologist II	1	1
Airport Manager II	10	7	Budget Officer II	5	4
Accountant IV	1	1	Accountant II	4	3
Budget Officer IV	1	1	Management & Audit Analyst II	5	5
Management & Audit Analyst IV	1	1	Human Resource Mngt. Officer II	4	4
Human Resource Mngt. Officer IV	1	1	Computer Programmer II	3	1
Engineer IV	3	3	Aviation Safety Reg. Officer II	4	1
Administrative Officer IV	1	0	Statistician II	1	1
Supply Officer IV	1	1	Air Terminal Supervisor	2	2
Supvsg. Avtn. Safety Reg. Officer	3	2	Optometrist II	1	1
Check Pilot III	3	1	Cashier II	1	1
Supervising Air Traffic Controller	73	68	Records Officer II	1	1
Supervising Airways Communicator	59	58	Supply Officer II	1	1
Supvsg. Air Nav. System Specialist	80	69	Medical Officer I	2	0
Check Pilot II	9	6	Nurse II	1	1
Executive Assista III	1	1	Dentist I	3	3
Int'l. Civil Aviation Coordinator	1	1	Airfield Power Technician V	4	2
Legal Officer III	1	1	Cabin Crew Examiner II	3	1
Sr. Air Traffic Controller	113	103	Computer Operator III	1	1
Airport Manager I	33	25	Engineer I	2	0
Engineer III	14	11	Pharmacist II	1	1
Sr. Air Navigation System Specialist	147	128	Intelligence Officer I	1	0
Sr. Airways Communicator	77	74	Special Investigator I	2	2
Air Traffic Controller II	107	86	Private Secretary I	1	0
Information Officer III	1	1	Administrative Officer I	3	3
Intelligence Officer III	1	1	Budget Officer I	14	13
Medical Officer III	3	3	Accountant I	12	7
Accountant III	2	2	Management & Audit Analyst I	8	7
Air Traffic Controller I	43	39	Data Controller III	1	1
Air Navigation System Specialist II	180	150	Human Resource Mngt. Officer I	2	1

資料：Data Book (ATO/JICA)

表3.2.5 航空局職員数の構成 (2)

Summary of AUTHORIZED and FILLED POSITIONS as of JUNE, 1997					
POSITION	No. of	Filled	POSITION	No. of	Filled
	Authorized Positions	Positions		Authorized Positions	Positions
Airfield Power Technician IV	67	50	Cash Clerk I	6	3
Check Flight Radio Operator	1	1	Clerk II	3	2
Cabin Crew Examiner I	1	1	Heavy Equipment Operator I	3	1
Test Specialist I	1	1	Airfield Power Technician I	22	19
Aviation Safety Regulation Officer I	7	3	Statistician Aide	2	1
Statistician I	1	1	Electrician I	3	2
Records Officer I	10	10	Dormitory Attendant	2	2
Supply Officer I	1	1	Illustrator I	4	3
Nurse I	6	3	Driver I	35	35
Cashier I	7	7	Security Guard I	221	215
Firefighter III	41	37	Plumber I	2	1
Radiologic Technologist II	1	1	Carpenter I	9	7
Secretary II	1	1	Mason I	2	1
Dormitory Manager I	1	0	Antenna Rigger	5	5
Airfield Power Technician III	94	69	Utility Worker II	4	4
Buyer III	2	2	Painter I	1	1
Sr. Bookkeeper	11	11	Reproduction Machine Operator I	3	3
Intelligence Agent I	1	1	Utility Worker I	213	199
Administrative Assistant	2	1	Crafts and Trade Helper	1	1
Management & Audit Assistant	10	9			
Clerk IV	9	9			
Draftsman II	3	2	Total	3104	2677
Construction & Maintenance Foreman	5	3			
Human Resource Mngt. Assistant	10	9			
Cartographer II	2	2			
Aircraft Mechanic II	5	5			
Test Technician II	1	1			
Firefighter II	33	31			
Security Guard III	3	3			
Computer Operator I	1	1			
Clerk III	92	81			
Medical Laboratory Technician I	2	1			
Medical Equipment Technician I	1	1			
Laboratory Technician I	1	1			
Accounting Clerk II	16	16			
Auxiliary Machine Operator II	3	3			
Buyer II	3	3			
Draftsman I	5	4			
Stenographer II	2	2			
Utility Foreman	1	1			
Airfield Power Technician II	173	156			
Aircraft Mechanic I	2	2			
Disbursing Officer I	12	12			
Firefighter I	292	266			
Mechanic II	2	0			
Bill Collector	2	1			
Security Guard II	12	11			
Stenographer I	1	0			
Driver II	2	2			
Nursing Attendant	4	3			
Dental Aide	1	1	* Source of Data: NORMA G. ABARINTOS		
Accounting Clerk I	20	20	Chief Personnel Section		
Engineer Aide	3	3			
Supplies Checker	2	2			
Storekeeper I	6	6			
Human Resource Mngt. Aide	3	3			

表3.2.6 航空局予算の推移

(Unit: 1,000 Pesos)

PARTICULARS	Allotment Code	CY 1987	CY 1988	CY 1989	CY 1990	CY 1991
Personal Services	100	92,109	125,299	123,449	123,798	101,521
Maintenance and Other Operating Expenses	200	90,539	93,874	113,343	115,261	112,275
Capital Outlay	300	50		637	649	
TOTALS		182,698	219,173	237,429	239,708	213,796

PARTICULARS	Allotment Code	CY 1992	CY - 1993	CY 1994	CY 1995	CY 1996
Personal Services	100	162,881	164,986	182,439	292,339	320,098
Maintenance and Other Operating Expenses	200	138,676	149,992	96,046	193,116	245,041
Capital Outlay	300		1,626		1,892	5,942
TOTALS		301,557	316,604	278,485	487,347	571,081

資料 : Data Book (ATO/JICA)

表3.2.7 運輸通信省予算の推移

(Unit: 1,000 Pesos)

PARTICULARS	CY 1990	CY 1991	CY 1992	CY 1993	CY 1994	CY 1995	CY 1996
Personal Services	1,360,059	1,341,743	1,941,621	1,003,344	1,078,849	1,162,248	1,328,797
Maintenance and Other Operating Expenses	801,268	817,671	1,056,301	872,833	744,313	867,855	1,061,930
Capital Outlay	1,444,552	983,246	1,997,421	3,008,719	2,994,405	1,206,592	3,097,794
TOTALS	3,605,879	3,142,660	4,995,343	4,884,896	4,817,567	3,236,695	5,488,521

資料 : Data Book (ATO/JICA)

表3.2.8 既存の CNS/ATM システムに対する投資計画

	1998-2002 ('000)	2003-2007 ('000)
ATM		
- Upgrading of ATS Facilities (TWR/FSS)	P 39,800	P 50,000
- New Manila Tracon Building	P 46,000	
COM		
- Replace AFTN Switching Centre	P 60,000	
- Provide ATS Speech Circuits	P 800	
- Upgrading/replacement of VHF and HF	P 13,000	P 8,500
NAV		
- NDB Replacement	P 8,000	
SUR		
- New MSSR Davao		P 134,000
- New MSSR Palawan		P 134,000
- Replacement Tagaytay SSR (new MSSR)		P 111,700
- Replacement Manila Approach PSR/SSR	P 426,000	
- ACC Radar Simulator		P 18,000
- Radar Video Recording Facilities	P 5,000	
AIS		
- New Central NOTAM processing System	P 130,000	
Total Investment	P 728,600	P 456,200

表3.2.9 将来の CNS/ATM システムに対する投資計画

	1998-2002 ('000)	2003-2007 ('000)
ATM		
- ADS Displays	P 26,000	P 52,000
WGS-84 CONVERSION	P 26,000	
NAVIGATION		
- DGPS (3 Airports @ P16,000 per unit)	P 48,000	
Total Investment	P 100,000	P 52,000

資料："CIVIL AVIATION MASTER PLAN", DRAFT, Revised Oct. 1996,
Department of Transportation and Communications.

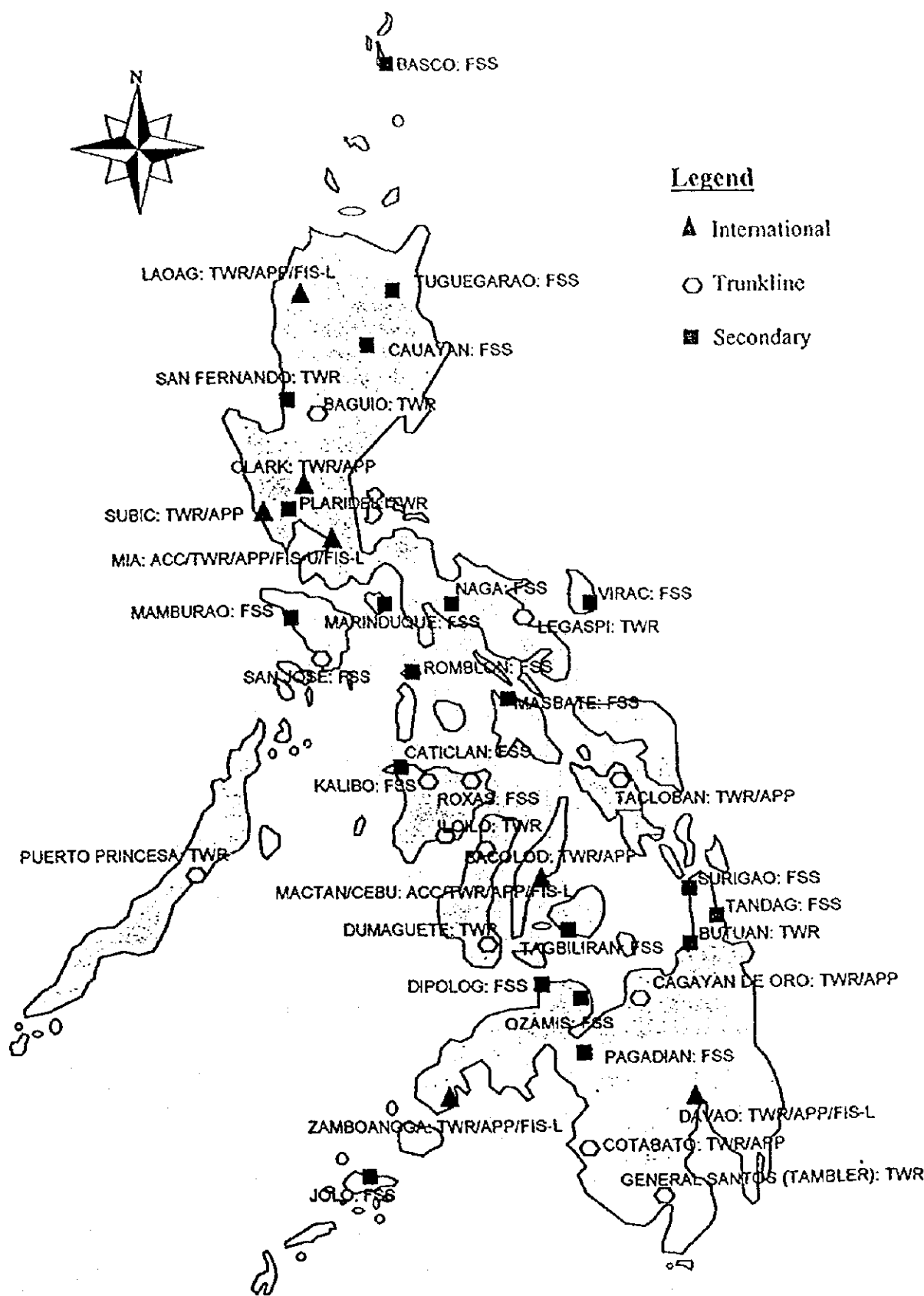


図3.3.1 航空交通管制通信施設 (地对空通信施設)

資料：“The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan”, Final Draft, August 28, 1997, ATO

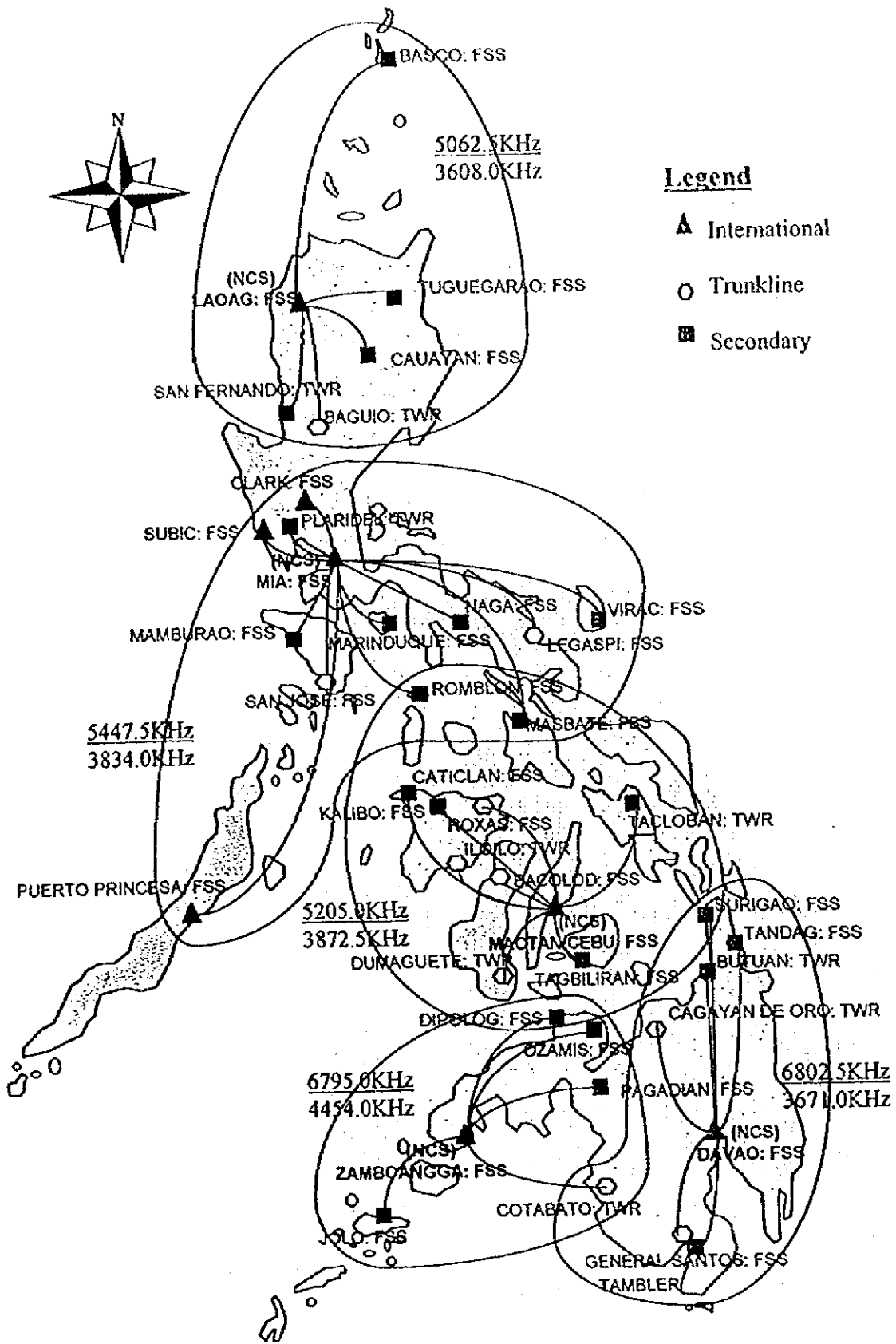


図3.3.2 航空交通管制通信施設 (地対地通信施設)

資料: "The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan", Final Draft, August 28, 1997, ATO

表3.3.1 空港別通信施設リスト

(1)

TABLE 14: COMMUNICATION EQUIPMENT INVENTORY									
EXISTING EQUIPMENT									
LOCATION/ FACILITY	NAME	EQUIPMENT DESCRIPTION			MFR/MO/PWR	DATE INSTALLED	STATUS		
		FREQ		SYS. NO.			SYS-1	SYS-2	
		KHz	MHz						
BACOLOO	FSS	HF/SSB TR	5205.0		1	Transworld, TWC-105, 100W	1988	OP	-
		HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1990	OP	-
	TWR	VHF/AM Tx		123.6	2	Philips, RZ-570, 50W	1973	OP	OP
		VHF/AM Tx		123.6	2		1994	OP	OP
		VHF/AM Rx		123.6	2	Philips, RO-980	1973	OP	OP
		VHF/AM Rx		123.6	2	Aerocom, V330	1994	OP	OP
		VHF/AM TR		123.6	1	NEC, NRV-722, 5W	1981	OP	-
	APP	VHF/AM TR		122.6	1	NEC, NRV-722, 5W	1981	OP	-
		VHF/AM TR		122.6	2	Philips, RZ-570, 50W	1973	OP	OP
		VHF/AM Tx		122.6	2	Aerocom, V320, 50W	1994	OP	OP
		VHF/AM Rx		122.6	2	Philips, RO-980	1973	OP	OP
		VHF/AM Rx		122.6	2	Aerocom, V330	1994	OP	OP
		VHF Mobile TR			1	Menior, 10W	1994	OP	-
		VHF Base TR			1	GE, MB, 40W	1994	OP	-
		VHF/HF TR			6	GE, MPA, 5W	1994	OP-3	OP-3
		VHF/HF TR			1	Becker, AR-3201, 5W	1991	OP	-
		VHF/HF TR			1	Bendix/King, KX-94, 1.5W	1991	OP	-
		VHF/HF TR			1	ICOM, IC-A20, 5W	1992	OP	-
BAGUIO	TWR	HF/SSB TR	5062.5		1	YAESU, FT-180, 100W	1990	OP	-
		VHF/AM TR		123.5	3	NEC, NRV-722, 5W	1983	OP-2	OP
		VHF/AM TR			2	Ericom, MAS-835, 10W	1991	OP	OP
BASCO	FSS	HF/SSB TR	5062.5		1	Transworld, TWC-105, 100W	1994	OP	-
		HF/SSB Rx	5062.5		2	Anritsu, RG-81	1983	OP	OP
		VHF/AM TR		122.0	1	NEC, NRV-722, 5W	1985	OP	-
BUTUAN	FSS	HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1987	OP	-
		HF/SSB TR	5205.0		2	JRC, JSB-171T, 100W	1994	OP	OP
		VHF/AM TR		3-CH 122.0	2	NEC, NRV-722, 5W	1985	OP	OP
		VHF/AM TR		3-CH 122.0	2	PAE, 4004 model, 10W	1994	OP	OP
		VHF Mobile TR		3-CH	1	PAE, 1600 model, 5W	1994	OP	-
		VHF/HF TR			1	Bendix King, KX-99	1993	OP	-
		VHF/HF TR			2	Becker, AR-3201	1993	OP	OP
		HEAVY Rx Mon.	Tunable		2	Kenwood, R-5000	1994	OP	OP
CABANATUAN	HF/SSB TR	5447.5	6-CH	1	Transworld, TWC-105, 100W	1993	OP	-	
CAGAYAN DE ORO	TWR	HF/SSB TR	5205.0		2	Transworld, TWC-105, 100W	1991	OP	OP
		VHF/AM Tx		122.3	2	Philips, RZ-570, 50W	1975	OP	OP
		VHF/AM Rx		122.3	2	Philips, RO-980, RX	1975	OP	OP
		VHF/AM Tx		123.6	2	Philips, RZ-570, 50W	1975	OP	OP
		VHF/AM Rx		123.6	2	Philips, RO-980, RX	1975	OP	OP
CAUAYAN	HF/SSB TR	5062.5		1	YAESU, FT-180, 100W	1994	OP	-	
	VHF/AM TR		122.7	2	NEC, NRV-722, 5W	1979	OP	OP	
COTABATO	TWR	HF/SSB TR	6795.0 6802.5		1	YAESU, FT-180, 110W	1987	OP	-
		VHF/AM TR		118.1	2	NEC, NRV-722, 5W	1980	OP	OP
		VHF/AM Tx		123.3					
		VHF/AM Tx		118.1	2	AEROCOM, V310, 50W	1994	OP	OP
		VHF/AM Rx		118.1	2	AEROCOM, V320	1994	OP	OP
	APP	VHF/AM TR		118.1	2	NEC, NRV-722, 5W			
		VHF/AM Tx		123.3	2	AEROCOM, V310, 50W	1994	OP	OP
		VHF/AM Rx		123.3	2	AEROCOM, V320	1994	OP	OP
		VHF Mobile TR		118.1	2	Menior, 5W	1994	OP	OP
		VHF Base TR		124.5 123.3					
		VHF Base TR		138.025	1	GE, 100W	1994	OP	-
		VHF/HF TR		137.025 138.025	6	GE, MPA, 5W	1994	OP-3	OP-3
	VHF/HF TR		137.025						
	VHF/HF TR			2	Becker, AR-3201, 5W		OP	OP	
	VHF/HF TR			2	Bendix/King, KX-99, 1.5W		OP	OP	
	VHF/HF TR				ICOM, IC-26H, 5W				

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(2)

LOCATION/ FACILITY	NAME	EQUIPMENT DESCRIPTION				DATE INSTALLED	STATUS	
		FREQ		SYS NO.	MFR/MOUPWR		SYS-1	SYS-2
		KHz	MHz					
DABAQ	FSS HF/SSB TR	6802.5		2	JRC, JSB-171T, 100W	1994	OP	OP
	VHF/AM TR		124.0	2	PAE, 4004 model, 10W	1994	OP	OP
	RCVR HF/SSB RX	6802.5		2	ANRITSU, RG-81B	1994	OP	OP
	TWR VHF/AM TX		118.1	2	PHILIPS, RZ-570, 50W	1972	OP	OP
	VHF/AM TX		118.1	2	PHILIPS, RO-560, 10W	1972	OP	OP
	VHF/AM RX		118.1	4	PHILIPS, RO-980	1972	OP	OP
	APP VHF/AM TX		122.4	2	PHILIPS, RZ-570, 50W		OP	OP
VHF/AM TX		122.4	2	PHILIPS, RZ-560, 10W		OP	OP	
VHF/AM RX		122.4	4	PHILIPS, RO-980		OP	OP	
DIPOLOG	FSS HF/SSB TR	6795.0		2	JRC, JSB-171T, 100W	1994	OP	OP
	VHF/AM TR		122.1	2	PAE, 4004 model, 10W	1994	OP	OP
	VHF/BASE TR		3-CH	1	PAE, 1600 model, 5W	1994	OP	-
DUMAGUETE	TWR HF/SSB TR	5205.0		1	Transworld, TWC-105, 100W	1984	OP	-
	HF/SSB TR			1	Transworld, TWC-105, 100W	1991	OP	-
	HF/SSB TR			2	JRC, JSB-171T, 100W	1994	OP	OP
	HF/VHF Rx Mon.			1	KENWOOD, R-5000	1994	OP	-
	VHF/AM TR		129.7	2	EXCOM, MAS-835, 10W	1992	OP	OP
			123.5					
	VHF/AM TR		3-CH	1	NEC, NRV-722, 5W	1984	OP	-
	VHF/AM TR		4-CH	2	PAE, 4004 model, 10W	1994	OP	OP
	VHF/MOBILE TR		118.1	1	PAE, 1600 model, 5W	1994	OP	-
			129.7					
		121.5						
		123.5						
	VHF/HX TR		138.025	1	MOTOROLA, PT-400, 5W	1985	OP	-
	VHF/HX TR		138.025	1	MOTOROLA, HFT-90, 5W	1985	OP	-
	VHF/HX TR		138.025	3	YAESU, FTC-2203, 5W	1987	OP-1	-
GEN SANTOS	FSS HF/SSB TR	6802.5		2	Transworld, TW3-105, 100W	1993	OP	OP
	VHF/AM TR		122.2	2	EXCOM, MAS-835, 10W	1993	OP	OP
ILOILO	TWR HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1992	OP	-
	VHF/AM TX		118.1	2	AEROCOM, V310, 50W	1994	OP	OP
	VHF/AM TX		123.4	2	AEROCOM, V310, 50W	1994	OP	OP
	VHF/AM RX		118.1	2	AEROCOM, V320	1994	OP	OP
	VHF/AM RX		123.4	1	AEROCOM, V320	1994	OP	-
	VHF/AM TR		118.1	1	NEC, NRV-722, 5W	1978	OP	-
			121.5					
			123.4					
	VHF/AM TR		118.1	2	MENTOR	1994	OP	OP
			121.5					
		123.4						
	VHF/BASE TR		138.025	1	MOTOROLA, MASTER, 30W	1980	OP	-
	VHF/HX TR		137.025	2	NEUTEC, SP-605H, 5W	1985	OP	OP
			138.025					
JOLO	FSS HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1985	OP	-
	VHF/AM TR		122.2	1	NEC, NRV-722, 5W	1985	OP	-
JOMALIG	HF/SSB TR	5447.5		1	Transworld, TWC-105, 100W	1990	OP	-
KALIBO	FSS HF/SSB TR	5205.0		1	JRC, JSB-171T, 100W	1996	OP	-
	VHF/AM TR		123.1	1	PAE, 1600 model, 5W	1996	OP	-
	VHF/AM TR		123.1	1	TAIT, T-373, 10W	1990	OP	-
LACAG	FSS HF/SSB TR	5062.5		1	Transworld, TWC-105, 100W	1990	OP	-
	HF/SSB TR	5062.5		2	JRC, JSB-171T, 100W	1994	OP	OP
	HF/SSB RX	5062.5		2	ANRITSU, RG-81A/B	1994	OP	OP
	VHF/AM TR		122.3	1	NEC, NRV-722, 5W	1983	OP	-
			121.5					
			121.6					
	VHF/AM TR		124.0	2	PAE, 4004 model, 10W	1994	OP	OP
	VHF/MOBILE TR			1	PAE, 1600 model, 5W	1994	OP	-
	TWR VHF/AM TX		118.1	1	NEC, T-N2200, 50W	1983	OP	-
	VHF/AM RX		118.1	1	NEC, R-N2201	1983	OP	-
APP VHF/AM TX		122.3	1	NEC, T-N2200, 50W	1983	OP	-	
VHF/AM RX		122.3	1	NEC, R-N2201	1983	OP	-	

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(3)

LOCATION/ FACILITY	EQUIPMENT DESCRIPTION					DATE INSTALLED	STATUS	
	NAME	FREQ		SYS NO.	MFR/MDLPWR		SYS-1	SYS-2
		KHz	MHz					
LEGASPI	MIL UHF/AM TX		286.4	1	TOSHIBA, NSF-40, 100W	1983	OP	-
	UHF/AM RX		286.4	1	TOSHIBA, NRF-213	1983	OP	-
	HF Rem. CU. Unit			1	Transworld, TW-5201	1993	OP	-
	FSS HF/SSB TR	5447.5		2	Transworld, TW-100, 300W	1993	OP	OP
	NDB Mon. Rx	366.0		1	SAC, MR-7A	1995	OP	-
	VHF Rem. CU. Unit			2	AEROCOM, V340	1993	OP	OP
	TWR VHF/AM TX		123.3	2	AEROCOM, V310, 50W	1993	OP	OP
	VHF/AM TX		118.1	2	AEROCOM, V310, 50W	1993	OP	OP
	VHF/AM TR		118.0	2	AEROCOM, V330, 10W	1993	OP	OP
			124.0					
	VHF/AM TR		118.1	2	MENTOR, MB, 10W	1993	OP	OP
			121.5					
			123.3					
	VHF/AM TR		118.1	1	EXICOM, MAS-335, 10W	1989	OP	-
			121.5					
		123.3						
VHF/MOBILE TR		118.1	2	MENTOR, M15, 5W	1993	OP	OP	
		123.3						
VHF/MOBILE TR			2	BECKER, AR-3201, 5W	1990	OP	OP	
VHF/FM BASE TR		137.025	1	GE, N8CL2FS, 25W	1993	OP	-	
		138.025						
NAVAIDS Rx			1	MENTOR, NS-1		OP	-	
VHF HM TR		137.025	2	GE (Ericsson), MPA, 5W	1993	OP	OP	
		138.025						
LIPA HF/SSB TR	5447.5		1	Transworld, TWC-105, 100W	1994	OP	-	
LUBANG HF/SSB TR	5447.5		1	JRC, JSB-171T, 100W	1994	OP	-	
MACTAN COMPLEX	HF/SSB TR			2	JRC, JSB-171T, 100W	1994	OP	OP
	VHF/AM RX		118.1	2	PAE	1994	OP	OP
	VHF/AM RX		121.9	2	PAE	1994	OP	OP
	VHF/AM RX		120.0	2	PAE	1994	OP	OP
	VHF/AM RX		121.5	2	PAE	1994	OP	OP
	VHF/AM RX		122.0	2	PAE	1994	OP	OP
	VHF/AM RX		124.7	2	PAE	1994	OP	OP
	HF/VHF Mon. RX			1	Kenwood, R-5000	1994	OP	-
	VHF/BASE TR			1	PAE, 1500 model	1994	OP	-
XMTR	VHF/AM TX		118.1	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		120.0	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		121.5	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		121.9	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		124.7	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		126.6	2	NEC, T-N2201	1990	OP	OP
	UHF/AM TR		356.6	2	NEC, TR4FM24-5A	1994	OP	OP
			341.5					
	Multiplex Unit	24 CH		1	NEC	1994	OP	-
	HF/SSB TX	5205.0		2	TOSHIBA, GEO-1124A	1994	OP	OP
	HF/SSB TX	4465.0		2	TOSHIBA, JRS-752	1994	OP	OP
		7340.0						
	Local Terminal			1	TOSHIBA, JCC-300L	1994	OP	-
MT/MAJIC (RCAG) Rx ROOM	UHF UNK			2	NEC, TR4FM24-5A, 10W	1994	OP	OP
	VHF/AM TX		132.2	2	PAE, 1500 model, 200W	1994	OP	OP
	VHF/AM TX		127.5	2	PAE, 1500 model, 200W	1994	OP	OP
	VHF/AM TX		121.5	2	PAE, 1500 model, 200W	1994	OP	OP
	VHF/AM TX		124.9	2	PAE, 1500 model, 200W	1994	OP	OP
	VHF/AM TX		125.7	2	PAE, 2750 model, 50W	1994	OP	OP
	VHF/AM RX		132.2	2	PAE, 2100 model	1994	OP	OP
	VHF/AM RX		127.5	2	PAE, 2100 model	1994	OP	OP
	VHF/AM RX		121.5	2	PAE, 2100 model	1994	OP	OP
	VHF/AM RX		125.7	2	PAE, 2100 model	1994	OP	OP
	VHF/AM RX		124.9	2	PAE, 2100 model	1994	OP	OP
	HF/SSB RX	5205.0		2	ANRITSU, RG-81B	1994	OP	OP
	HF/SSB RX	3872.0		2	ANRITSU, RG-81B	1994	OP	OP
	UPS			1	TOSHIBA, 1500 model, 2KVA	1994	OP	-
	DC Power Supply			2	NEC, YUASA, Battery	1994	OP	OP
MAMBURAO	FSS HF/SSB TR	5447.5		2	JRC, JSB-171T, 100W	1994	OP	OP

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(1)

LOCATION/ FACILITY	NAME	EQUIPMENT DESCRIPTION				DATE INSTALLED	STATUS		
		FREQ		SYS NO.	MFR/MDL/PWR		SYS-1	SYS-2	
		KHz	MHz						
MANILA XTMR	VHF/AM TR			2	PAE, 4004 model, 10W	1994	OP	OP	
	VHF/MOBILE TR			1	PAE, 1600 model, 5W	1994	OP	-	
	FSS								
	INTL AG	HF/SSB TX	5447.5		2	YOSHIBA, GED-1125, 125W	1992	OP	OP
		HF/SSB TX	6-CH		2	JRC, JRS-753AP, 5KW	1993	OP	OP
		HF/SSB TX	6-CH		2	JRC, JRS-753AP, 5KW	1993	OP	OP
		HF/SSB TX	6-CH		2	JRC, JRS-753AP, 5KW	1993	OP	OP
	RADIO LINK	HF/SSB TX	6-CH		2	JRC, JRS-753AP, 5KW	1993	OP	OP
		MW LINK TX		6840.0	2	NEC, 7GD-300-104A, 1W	1973	OP	OP
		MW LINK RX		6920.0 6500.0 6580.0	2	NEC, 7GD-300-101A, 24-CH	1973	OP	OP
MANILA TWR									
RADIO LINK	UHF LINK TX		344.5	2	NEC, TR4FM-24-5A, 10W	1994	OP	OP	
	UHF LINK RX	24-CH	659.5	2	NEC	1994	OP	OP	
TWR	VHF/AM TX		118.1	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM RX		118.1	2	PAE, 2100 model	1994	OP	OP	
GND CTL	VHF/AM TX		121.9	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM RX		121.9	2	PAE, 2100 model	1994	OP	OP	
BACK-UP	VHF/AM TX		122.0	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM RX		122.0	2	PAE, 2100 model	1994	OP	OP	
RAMP CTL	VHF/AM TX		121.7	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM RX		121.7	2	PAE, 2100 model	1994	OP	OP	
DISTRESS	VHF/AM TX		121.5	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM RX		121.5	2	PAE, 2100 model	1994	OP	OP	
EMERGENCY	VHF/AM TR	3-CH		2	PAE, 4004 model, 10W	1994	OP	OP	
	VHF/AM TR	3-CH		2	PAE, 4004 model, 10W	1994	OP	OP	
MANILA RADAR									
RADIO LINK	UHF LINK TX		659.5	2	NEC, TR4FM-24-5A, 10W	1994	OP	OP	
	UHF LINK TR		344.5	2	NEC, TR4FM-24-5A	1994	OP	OP	
APP	VHF/AM TX		119.7	2	NEC, 50W	1994	OP	OP	
	VHF/AM RX		119.7	2	PAE, 2100 model	1994	OP	OP	
DEP CTL	VHF/AM TX		121.1	2	NEC, 50W	1994	OP	OP	
	VHF/AM RX		121.1	2	PAE, 2100 model	1994	OP	OP	
CLR DEL	VHF/AM TX		125.1	2	NEC, 50W	1994	OP	OP	
	VHF/AM RX		125.1	2	PAE, 2100 model	1994	OP	OP	
DISTRESS	VHF/AM TX		121.5	2	NEC, 50W	1994	OP	OP	
	VHF/AM RX		121.5	2	PAE, 2100 model	1994	OP	OP	
BACK-UP	VHF/AM TR	3-CH		2	PAE, 4004 model, 10W	1994	OP	OP	
	SSR TX		1030.0	2	TOSHIBA, TW-1389A, 1.5KW	1983	OP	OP	
RADAR	SSR RX		1090.0	2	TOSHIBA, TW-1389A	1983	OP	OP	
	ASR TX		2880.0	2	TOSHIBA, TW-1038J, 500KW	1979	OP	OP	
	ASR RX		2880.0	2	TOSHIBA, TW-1038J	1979	OP	OP	
	ASR RX		2880.0	2	TOSHIBA, TW-1038J	1979	OP	OP	
MANILA AFC									
MW LINK	AFC-MLA RCVR Tx		6480.0	2	NEC, TR-7GD300-304A, 1W	1973	OP	OP	
	AFC-MLA RCVR Rx		6800.0 6540.0	2	NEC, TR-7GD300-104A	1973	OP	OP	
	AFC-MLA XMTR Tx		6580.0 6500.0	2	NEC, TR-7GD300-304A, 1W	1973	OP	OP	
	AFC-MLA XMTR Rx		6580.0 6920.0	2	NEC, TR-7GD300-101A	1973	OP	OP	
	AFC-TAG VHF-ER Tx		6500.0	2	NEC, TR-7GD300-304A, 1W	1973	OP	OP	
	AFC-TAG VHF-ER Rx		6840.0 6580.0	2	NEC, TR-7GD300-104A	1973	OP	OP	
	AFC-TAG VHF-ER Rx		6920.0	2	NEC, TR-7GD300-104A	1973	OP	OP	
	UHF LINK	AFC-TAG RCVR Tx		341.5	2	NEC, TR4FM-24-5A, 10W	1994	OP	OP
		AFC-TAG RCVR Rx		356.5	2	NEC, TR4FM-24-5A	1994	OP	OP
	RM	AFC-TAG ARSR Tx		7895.95 7955.25	2	NEC, TR-8G-1800-500B, 1W	1983	OP	OP
AFC-TAG ARSR Rx			8207.27 8266.57	2	NEC, TR-8G-1800-500B	1993	OP	OP	
FSS	HF/SSB TR		5447.5	1	YAESU, FT-180, 100W	1990	OP	-	
	HF/SSB TR		tunable	1	JRC, JSB-171T, 100W	1994	OP	-	
AMS	HF/SSB RX		tunable	1	ANRITSU, RG-81A	1984	OP	-	
	HF/SSB RX		tunable	1	ANRITSU, RG-81A	1984	OP	-	
	HF/SSB RX		tunable	1	ANRITSU, RG-81B	1994	OP	-	

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(5)

LOCATION/ FACILITY	NAME	EQUIPMENT DESCRIPTION				DATE INSTALLED	STATUS	
		FREQ		SYS NO.	MFR/MO/PWR		SYS-1	SYS-2
		KHz	MHz					
MARINOUQUE	HF/SSB RX		tunable	1	ANRITSU, RG-81B	1994	OP	-
	HF/SSB RX		tunable	1	ANRITSU, RG-81B	1994	OP	-
	FSS HF/SSB TR	5447.5		2	Transworld, TWC-105, 100W	1990	OP	OP
	HF/SSB TR	5447.5		1	YAESU, FT-180, 100W		OP	-
	VHF/AM TR		122.0	2	NEC, NRV-722, 5W	1981	OP	OP
	VHF/AM TR		122.0	1	EXICOM, MAS-835, 10W	1992	OP	-
MASBATE	VHF/HH TR		122.0	1	BENDIX KING, KX-99, 1.5W	1992	OP	-
	VHF/HH TR		122.0	1	BECKER, AR-3201, 5W	1992	OP	-
	FSS HF/SSB TR	5447.5		2	Transworld, TWC-105, 100W	1992	OP	OP
	HF/SSB TR	5447.5		1	JRC, JSB-171T, 100W	1994	OP	-
	VHF/AM Tx		122.0	2	EXICOM, MAS-835, 10W	1992	OP	OP
	VHF/HH TR		122.0	1	BENDIX KING, KX-99, 1.5W	1992	OP	-
NAGA	VHF/HH TR			1	BECKER, AR-3201, 5W	1992	OP	-
	FSS HF/SSB TR	5447.5		1	Transworld, TWC-105, 100W	1992	OP	-
	HF/SSB TR	5447.5		1	YAESU, FT-180, 100W	1993	OP	-
	VHF/AM TR		122.1	1	NEC, NRV-722, 5W	1978	OP	-
	VHF/AM TR		122.1	1	PHILIPS, RO-980, RX	1975	OP	-
	VHF/AM Tx		122.1	1	PHILIPS, RZ-560, 10W	1975	OP	-
PAGADIAN	VHF/HH TR			1	BENDIX KING, KX-99, 1.5W	1993	OP	-
	VHF/HH TR			5	ICOM, IC-A20, 5W	1994	OP	OP
	FSS HF/SSB TR	6795.0		2	NEC, SS-150A, 150W	1984	OP	OP
	VHF/AM TX		122.0	2	NEC, T-N2200, 50W	1984		
	VHF/AM RX		122.0	2	NEC, R-N2201, RX	1984		
	PLARDEL	HF/SSB TR	5447.5		1	Transworld, TWC-105, 100W	1990	OP
VHF/AM TR			122.4	2	NEC, NRV-722, 5W	1980	OP	OP
PTO. PRINCESA	FSS HF/SSB TR	5447.5		1	YAESU, FT-180, 100W	1992	OP	-
	HF/SSB TR				Transworld, TWC-105, 100W	1992	NO	-
	HF/SSB TR				BARRETT, 5502 model, 100W	1995	OP	-
	TWR VHF/AM TR		118.1	2	NEC, NRV-722, 5W	1983	OP	OP
			122.0					
			121.5					
RCMBLON	VHF/AM TX		118.1	2	NEC, T-N2200, TX	1983	OP	OP
	VHF/AM RX		118.1	2	NEC, R-N2201, RX	1983	OP	OP
	MIL VHF/AM TR		285.4	2	TOSHIBA, JHU-11, 100W	1983	OP	OP
	FSS HF/SSB TR	5447.5		2	Transworld, TWC-105, 100W	1993	OP	OP
	HF/SSB TR	5447.5	10-CH	1	JRC, JSB-171T, 100W	1995	OP	-
	VHF/AM TR		122.3	1	NEC, NRV-722	1978	OP	-
ROXAS	VHF/AM TR		122.3	1	NEC, NRV-722	1993	OP	-
	VHF/AM TX		122.3	1	EXICOM, MAS, 835	1979	OP	-
	VHF/AM RX		122.3	1	PHILIPS, RZ-560, 10W	1979	OP	-
					PHILIPS, RZ-560, RX	1979	OP	-
	FSS HF/SSB TR	5205.0		2	JRC, JSB-171T, 100W	1994	OP	OP
	VHF/AM TR		122.0	1	NEC, NRV-722, 5W	1985	OP	-
SAN FERNANDO	VHF/AM TR		3-CH	2	PAE, 4004 model, 10W	1994	OP	OP
	VHF/AM TR		122.0	1	PHILIPS, RZ-560, 10W	1973		
	VHF/AM TX		122.0	1	PHILIPS, RO-980, RX	1973		
	VHF/AM RX		122.0	1	PHILIPS, RO-980, RX	1973		
	HF/VHF Mon. Rx	Tunable		1	KENWOOD, R-5000, RX	1994	OP	-
	VHF/HH TR			2	ICOM, IC-02A/02N, 5W	1992	OP	OP
SAN JOSE	TWR HF/SSB TR	5062.5		1	Transworld, TWC-105, 100W	1993	OP	-
	HF/SSB TR			1	YAESU, FT-180, 100W	1987	OP	-
	VHF/AM TR		122.1	1	NEC, NRV-722, 5W	1978	OP	-
	VHF/AM TR		122.1	1	EXICOM, MAS-835, 10W	1993	OP	-
SURIGAO	FSS HF/SSB TR	5447.5		1	Transworld, TWC-105, 100W	1990	OP	-
	VHF/AM TR		122.0	2	NEC, NRV-722, 5W	1981/1986	OP	OP
	VHF/HH TR		122.0	1	BENDIX KING, KX-99, 1.5W	1993	OP	-
	VHF/HH TR		137.0	2	NEUTEC, SP-60591, 5W	1988	OP	OP
	VHF/HH (FM) TR			2	GE, MPA, 5W	1995	OP	OP

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(6)

LOCATION/ FACILITY	NAME	EQUIPMENT DESCRIPTION			DATE INSTALLED	STATUS			
		FREQ	SYS NO.	MFR/MDUPWR		SYS-1	SYS-2		
		KHz	MHz						
TACLOBAN	FSS HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1989	OP	-	
	VHF/AM TR		122.0	1	NEC, NRV-722, 5W	1976	OP	-	
	VHF/AM TR		122.0	1	EXICOM, MAS-835, 10W	1992	OP	-	
	VHF/AM TX		122.0	2	PHILIPS, RZ-560, 10W	1984	OP	OP	
	VHF/AM RX		122.0	1	PHILIPS, RO-980	1984	OP	-	
TACLOBAN	TWR HF/SSB TR	5205.0		1	YAESU, FT-180, 100W	1984	OP	-	
	HF/SSB TR	5205.0		2	JRC, JSB-1711, 100W	1994	OP	OP	
	VHF/AM TX		122.1	2	NEC, T-N2200, 50W	1984	OP	OP	
	VHF/AM TX		122.1	2	NEC, R-N2201	1984	OP	OP	
	APP VHF/AM TX		120.8	2	NEC, T-N2200, 50W	1984	OP	OP	
	VHF/AM RX		120.8	2	NEC, R-N2201	1984	OP	OP	
	VHF/AM BASE TR		138.025	1	MOTOROLA, 5W		OP	-	
TAGAYTAY	UHF/AM TR		286.4	2	TOSHIBA, JHU-11, 100W	1984	OP	OP	
	RML			2	NEC, 500 model	1984	OP	OP	
TAGAYTAY	ACC VHF/AM TX		128.3	2	PHILIPS, RZ-570, 50W	1993	OP	OP	
	VHF/AM TX		128.3	2	NEC, T-N2200, 50W	1984	OP	OP	
	VHF/AM TX		120.5	2	PHILIPS, RC-802, 250W	1994	OP	OP	
	VHF/AM TX		120.5	2	NEC, T-N2281, 250W	1984	OP	OP	
	VHF/AM TX		118.9	2	PHILIPS, RC-802, 250W	1994	OP	OP	
	VHF/AM TX		118.9	2	NEC, T-N2281, 250W	1984	OP	OP	
	VHF/AM TX		119.3	2	PAE, 2750 model, 200W	1994	OP	OP	
	VHF/AM TX		119.3	2	PAE, 2750 model, 200W	1994	OP	OP	
	VHF/AM TX		119.3	1	PHILIPS, RZ-570, 50W	1995	OP	-	
	VHF/AM RX		128.3	1	NEC, K221	1984	OP	-	
	VHF/AM RX		120.5	1	NEC, K221	1984	OP	-	
	VHF/AM RX		118.9	2	NEC, K221	1994	OP	OP	
	VHF/AM RX		119.3	1	PHILIPS, RO-980	1994	OP	-	
	VHF/AM RX		118.9	1	PHILIPS, RO-980	1994	OP	-	
	VHF/AM RX		120.5	1	PHILIPS, RO-980	1994	OP	-	
	VHF/AM RX		125.7	2	PAE, 2100 model	1994	OP	OP	
	VHF/AM RX		119.3	2	PAE, 2100 model	1994	OP	OP	
	VHF/AM RX		121.5	2	PAE, 2100 model	1994	OP	OP	
	TAGAYTAY	AMS VHF/AM TX		124.9	2	PAE, 1500 model, 50W	1994	OP	OP
		VHF/AM RX		124.9	2	PAE, 2100 model	1994	OP	OP
VHF/AM RX			124.9	1	PHILIPS, RO-980	1994	OP	-	
HF/SSB RX SEA-1		3485.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX SEA-2		5655.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX SEA-3		8942.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX SEA-4		11396.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX SEA-5		13300.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-1		2998.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-2		6532.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-3		6562.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-4		8903.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-5		13309.0		2	ANRITSU, RG-81B	1994	OP	OP	
HF/SSB RX CLOP-6		17904.0		2	ANRITSU, RG-81B	1994	OP	OP	
TAGAYTAY		FSS HF/SSB RX	3834.0		2	ANRITSU, RG-81B	1994	OP	OP
	HF/SSB RX	5447.5		2	ANRITSU, RG-81B	1994	OP	OP	
TAGAYTAY	DISTRESS VHF/AM TX		121.5	2	PAE, 1500 model, 50W	1994	OP	OP	
	VHF/AM TX		126.4	1	PAE, 1550 model	1996	OP	-	
	VHF/AM TX		126.4	1	PAE, 5350 model, 250W	1996	OP	-	
	VHF/AM TX		126.4	1	PHILIPS, RC-802, 250W	1996	OP	-	
	VHF/AM RX		121.5	1	PHILIPS, RO-980	1994	OP	-	
TAGAYTAY	ATIS VHF/AM TX		126.4	1	PHILIPS, RZ-570, 50W	1994	OP	-	
	VHF/AM TX		126.4	1	PHILIPS, RO-980	1994	OP	-	
BACK-UP	HF/SSB RX			7	ANRITSU, RG-81A	1994	OP	OP	
TAGAYTAY	VHF-ER								
	RML MICROWAVE Tx			2	NEC, TR-7GD300-304A, 1W	1973	OP	OP	
	MICROWAVE Rx			2	NEC, TR-7GD300-101A	1973	OP	OP	
	ACC	VHF/AM TX		118.9	2	PHILIPS, RC-802	1973	OP	OP
		VHF/AM TX		119.3	2	PHILIPS, RC-802	1973	OP	OP
		VHF/AM TX		125.7	2	PHILIPS, RC-802	1973	OP	OP
		VHF/AM TX		121.5	2	PHILIPS, RC-802	1973	OP	OP
		VHF/AM TX		120.5	2	PHILIPS, RC-802	1973	OP	OP
		VHF/AM TX		128.3	1	PHILIPS, RC-802	1973	OP	-
		VHF/AM RX		118.9	2	PHILIPS, RO-980	1973	OP	OP
VHF/AM RX			119.3	2	PHILIPS, RO-980	1973	OP	OP	

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.1 空港別通信施設リスト

(7)

LOCATION/ FACILITY	EQUIPMENT DESCRIPTION NAME	EQUIPMENT DESCRIPTION			DATE INSTALLED	STATUS			
		FREQ		SYS NO.		MFR/MDL/PWR	SYS-1	SYS-2	
		KHz	MHz						
AMS	VHF/AM RX		125.7	2	PHILIPS, RO-980	1973	OP	OP	
	VHF/AM RX		121.5	2	PHILIPS, RO-980	1973	OP	OP	
	VHF/AM RX		120.5	2	PHILIPS, RO-980	1973	OP	OP	
	VHF/AM RX		128.3	1	PHILIPS, RO-980	1973	OP	-	
	HF/SSB RX	6532.0		1	KENWOOD, R-2000	1985	OP	-	
	HF/SSB RX	3485.0		1	KENWOOD, R-2000	1985	OP	-	
	HF/SSB RX	5635.0		1	KENWOOD, R-2000	1985	OP	-	
	HF/SSB RX	13309.0		1	ANRITSU, RG-81A	1985	OP	-	
LIPA MON	HF/SSB RX	8903.0		1	ANRITSU, RG-81A	1985	OP	-	
	VOR Mon. Rx.		115.5	1	WILCOX, 792-B	1985	OP	-	
TAGBILARAN	FSS	HF/SSB TR	5205.0	2	Transworld, TWC-105, 100W	1992	OP	OP	
	HF/SSB TR	5205.0		2	Transworld, TWC-105, 100W	1992	OP	OP	
	VHF/AM TR		122.2	2	EXICOM, MAS-835, 10W	1992	OP	OP	
TANDAG	FSS	HF/SSB TR	6802.5	1	YAESU, FT-180, 100W	1993	OP	-	
	VHF/AM TR		122.6		NEC, NRV-722, 5W		OP	-	
	VHF/AM TR		122.6	2	EXICOM, MAS-835, 10W	1992/1993	OP	OP	
TUGUEGARAO	FSS	HF/SSB TR	5062.5	1	YAESU, FT-180, 100W	1992	OP	-	
	HF/SSB TR	5062.5		1	Transworld, TWC-105, 100W	1991	OP	-	
	VHF/AM TR		122.0	2	NEC, NRV-722, 5W	1978/1981	OP	OP	
	VHF/AM TR		122.0	1	EXICOM, MAS-835, 10W	1995	OP	-	
VIRAC	FSS	HF/SSB TR	5447.5	1	Transworld, TWC-105, 100W	1989	OP	-	
	HF/SSB TR	5447.5		1	YAESU, FT-180, 100W	1985	OP	-	
	HF/SSB TR	5447.5		1	JRC, JSB-171T, 100W	1994	OP	-	
	VHF/AM TR		122.2	2	EXICOM, MAS-835, 10W	1992	OP	OP	
	VHF/H/H TR		122.2	1	BENDIX KING, KX-99	1992	OP	-	
	VHF/H/H TR		122.2	1	BECKER, AR-3201	1992	OP	-	
ZAMBOANGGA	FSS	HF/SSB TR	6795.0	2	JRC, JSB-171T, 100W	1994	OP	-	
	HF/SSB RX	6795.0		2	ANRITSU, RG-81B	1994	OP	-	
	VHF/AM TR		124.0	2	PAE, 4004 model, 10W	1993	OP	-	
	HF/VHF Mon. Rx	Tunable		2	KENWOOD, R-5000	1994	OP	-	
	TWR	VHF/AM TX		122.7	2	PAE, 1500 model	1994	OP	OP
	VHF/AM TX		123.5	2	AEROCOM, V310, 50W	1993	OP	OP	
	VHF/AM RX		123.5	2	AEROCOM, V320	1993	OP	OP	
	APP	VHF/AM TX		122.7	2	AEROCOM, V310, 50W	1993	OP	OP
	VHF/AM RX		122.7	2	PAE, 2100 model	1994	OP	OP	
	VHF/AM RX		122.7	2	AEROCOM, V320	1993	OP	OP	
	VHF/AM TR		118.1	2	MENTOR, 10W	1993	OP	OP	
				121.5					
				123.5					
XTMR	UHF LINK			2	NEC, TR4FM12-2B, 10W	1994	OP	OP	
	HF/SSB TX			2	TOSHIBA, GEO-1124A, 125W	1994	OP	OP	
	HF/SSB TX			2	JRC, JSB-725	1994	OP	OP	
	UHF LINK			2	NEC, TR4FM12-2B, 10W	1994	OP	OP	

Source:
Airways Maintenance Section
Air Navigation Service, ATO

図3.3.2 航行援助施設概要

DVOR	(Doppler Very High Frequency Omni-Range)	7
VOR	(Very High Frequency Omni-Range)	23
DME	(Distance Measuring Equipment)	38
LLZ	(Localizer)	13
G/P	(Glidepath or Glideslope)	12
PAPI	(Precision Approach Path Indicator)	22
VASI	(Visual Approach Lighting System)	8
SALS	(Simple Approach Lighting System)	13
REIL	(Runway End Identification Lighting)	14
NDB	(Non-Directional Radio Beacon)	26
TOTAL		176

資料：“The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan”, Final Draft, August 28, 1997, ATO

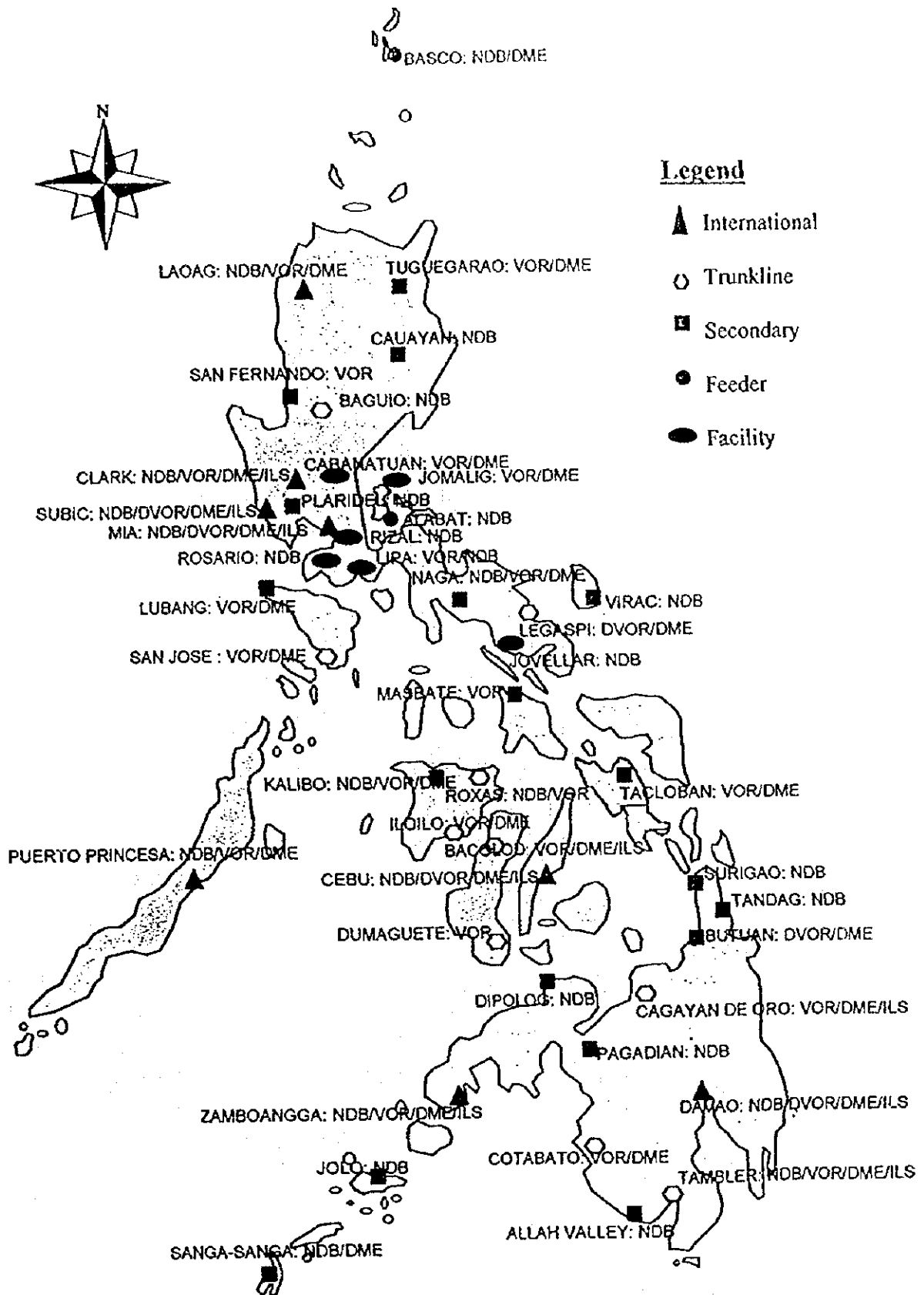


図3.3.3 航行援助施設

資料：“The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan”, Final Draft, August 28, 1997, ATO

表3.3.3 空港別航行援助施設リスト

(1)

TABLE 16: NAVIGATIONAL AIDS EQUIPMENT INVENTORY									
EXISTING EQUIPMENT									
LOCATION	EQUIP. NAME	KHZ	DESCRIPTION		DATE		STATUS		
			IDENTIFICATION	MHZ	INSTALLED	FLIGHT CHECKED	SYS-1	SYS-2	
ALABAT BACOLOD	NDB	247	SAC SA-1000, 1000W			06/01/93	09/24/95	OP	DEF
	VOR		WILCOX 585B, 100W		114.9	12/05/90	03/00/94	OP	OP
	LLZ		ASI 1100, 15W, RWY 22		109.9	08/17/95	08/17/95	OP	OP
	DME		ASI 1118, 100W, CH-36X, RWY 22			08/17/95	08/17/95	OP	OP
	G/P		ASI 1110, 5W, RWY 22		333.8	08/17/95		FOR FIC	
BAGUIO	PAPI		RWY 2204			08/17/95	08/17/95	OP	OP
	SALS		RWY 2204			08/17/95	08/17/95	OP	OP
	NDB	272	SAC SA500, 500W			03/23/93	02/10/95	OP	OP
BASCO	PAPI		RWY 27			11/16/93	02/10/95		OP
	VASI		RWY 09			11/16/93	11/16/93		OP
BUTUAN	NDB	276	TOSHIBA J2A-1024/ASI SA50 500W/50W			07/07/93	07/07/93	OP	OP
	DME		ASI 1119, 1000W, CH-107X			04/26/94	10/06/94	U/S	U/S
CASANATUAN	DVOR		TOSHIBA TW1202K, 200W		112.5	08/30/84	02/23/94	OP	OP
	DME		NEC NNG-570B, 1000W, CH-72X			08/30/84	02/23/94	OP	OP
	PAPI		RWY 1230			03/28/94	02/23/94	U/S	OP
	SALS		RWY 30			03/28/94	02/23/94		OP
CAG. DE ORO	VOR		WILCOX 585B, 100W		112.1	11/20/90	08/06/93	OP	OP
	DME		WILCOX 596, 1000W, CH-74X				08/06/93	FOR FIC	
CAUAYAN CLARK	VOR		WILCOX 585B, 100W		113.3	06/11/90	02/24/94	OP	OP
	DME		WILCOX 596B, 1KW, CH-83X			06/11/90	02/24/94	OP	OP
	LLZ		ASI 1100, 15W, RWY 17		109.9	06/15/95	06/15/95	OP	OP
	DME		ASI 1118, 100W, CH-36X, RWY 19			06/15/95	06/15/95	OP	OP
	G/P		ASI 1110, 5W, RWY 17		333.8	06/15/95	06/15/95	OP	OP
	PAPI		RWY 01/19			08/27/94	08/27/94	OP	OP
COTABATO	NDB	351	TOSHIBA J2A-1023, 100W			04/18/84	04/18/94	OP	OP
	DVOR		ALCATEL, 100W		113.1	09/13/95	09/25/96	OP	OP
	DME		ALCATEL, 1KW, CH-78X			09/13/95	09/25/96	OP	OP
	NDB	352	TMC, 100W			09/13/95	09/25/96	OP	OP
	LLZ		WILCOX MARK-10, 15W, RWY 20L		110.1	09/13/95	06/14/96	OP	OP
	DME		WILCOX MARK-10, 100W, CH-36X, RWY 20L			09/13/95	06/14/96	OP	OP
	G/S		WILCOX MARK-10, 5W, RWY 20L		334.4	12/14/94		FOR FIC	
	LLZ		WILCOX MARK-10, 15W, RWY 02R		109.3	12/14/94		FOR FIC	
	DME		WILCOX MARK-10, 100W, CH-32X, RWY 02R			12/14/94	06/14/96	OP	OP
	G/S		WILCOX MARK-10, 5W, RWY 02R		332	12/14/94	06/14/96	OP	OP
DAYAO	PAPI		RWY 20L/02R			12/14/94	09/25/96	OP	OP
	VOR		WILCOX 585, 100W		113.7	05/25/94	05/24/94	OP	OP
	DME		ASI 1119, 1KW, CH-84X			05/25/94	05/24/94	OP	OP
	REL		RWY 28					OP	OP
	SALS		RWY 28						OP
	VASI		RWY 10/28					FOR FIC	
DAYAO	NDB	354	SAC SA-500, 500W			07/23/93	09/15/95	OP	OP
	DVOR		TOSHIBA TW-1202, 200W		112.1	06/25/94	06/25/94	OP	OP
	DME		NEC NNG-570B, 1KW, CH-58X			06/25/94	06/25/94	OP	OP
	LLZ-1		ASI 1100, 15W, RWY 05		109.9	06/22/95	06/22/95	OP	OP
	DME-1		ASI 1118, 100W, CH-36X, RWY 05			06/22/95	05/22/95	OP	OP
	G/S-1		ASI 1110, 5W, RWY 05		333.8			FOR FIC	
	LLZ-2		ASI 1100, 15W, RWY 23		109.1	08/05/95	08/05/95	OP	OP
	DME-2		ASI 1118, 100W, CH-28X, RWY 23			08/05/95	08/05/95	OP	OP
G/S-2		ASI 1110, 5W, RWY 23		331.4	09/15/95	09/15/95	OP	OP	

Source:
Airways Maintenance Section
Air navigation Service, ATO

表3.3.3 空港別航行援助施設リスト

(2)

LOCATION	EQPT. NAME	DESCRIPTION			DATE INSTALLED	DATE LAST FLIGHT CHECKED	STATUS	
		KHZ	IDENTIFICATION	MHZ			SYS-1	SYS-2
DIPOLOG	NOB	389	WILCOX 785-E, 50W,		08/12/94	05/05/95	OP	
	VASI		RWY 02/20		05/11/93	05/11/93	U/S	OP
DUMAGUETE	VOR		WILCOX 585B, 100W	114.1	02/28/90	02/22/94	OP	DEF
	VASI		RWY 09/27		02/28/90	02/22/94	U/S	OP
GEN SANTOS	VOR		WILCOX 585B, 100W	112.3	03/06/90	05/23/94	OP	OP
	(BUAYAN)	DME	ASI 1150, 1KW, CH-70X		03/06/90	05/23/94	OP	OP
(TAMBLER)	VOR		100W	114.5	07/01/96	07/01/96	OP	OP, 6/5/96
	DME		1KW, CH-92X		07/01/96	07/01/96	OP	OP, 6/5/96
	LLZ		15W, RWY 35	109.9	07/01/96		FOR F/C	
	NDB		TMC, 377KHz		07/01/96	07/01/96	OP	OP
	DME		100W, CH-38X, RWY 35		07/01/96		FOR F/C	
	G/S		5W, RWY 35					
ILOILO	VOR		WILCOX 585, 100W	116.7	1990	11/08/95	OP	OP
	DME		NEC NNG-570NNG-570B, 1KW, CH-110X		1990	11/08/95	OP	OP
	DME		ASI 1118, 100W					
	G/S		ASI 1110, 5W					
	PAPI		RWY 02/20		11/19/93	11/05/95	OP	OP
	SALS		RWY 02/20			11/05/95	OP	U/S
JOLO	NOB	404	TOSHIBA J2A-1024, 500W		04/22/85	04/22/95	U/S	5/28/96
JOMALIG	VOR		WILCOX 585, 100W	116.7	02/28/95	02/28/95	OP	OP
	DME		NEC NNG-570B, 1KW, CH-114X		02/28/95	02/28/95	OP	OP
JOVELLAR	NDB	360	SAC SA-100, 100W			10/04/96	OP	OP
	VOR		ASI 1150, 100W	113	1994		FOR F/C	
KALIBO	DME		ASI 1119, 100W, CH-77X		1994		FOR F/C	
	NDB	298	TOSHIBA J2A-1023, 100W		09/14/84	07/31/93	OP	OP
	PAPI		RWY 05/23		09/14/84	07/31/93	OP	OP
LAOAG	VOR		WILCOX 585, 100W	112.9	01/21/91	08/30/96	OP	OP
	DME		WILCOX 596B, 1KW, CH-76X		01/21/91	08/30/96	OP	OP
	NDB	205	NAUTEL NX-4000, 1KW		05/25/83	08/30/96	OP	OP
	PAPI		RWY 01/19		03/28/94	09/01/96		OP
	SALS		RWY 19		05/24/94	09/01/96		OP
LEGASPI	DVOR		ASI 1150, 100W	112.2	03/19/94	10/04/96	U/S	
	DME		ASI 1119, 1KW, CH-59X		03/19/94	10/04/96	U/S	
	PAPI		RWY 06/24		01/19/94	10/04/96		OP
	SALS		RWY 06/24		01/19/94	10/04/96		OP
LIPA	VOR		WILCOX 585, 100W	115.1	1980	06/11/92	OP	OP
	NDB	259	NAUTEL ND-500 II, 125W		09/09/93	09/09/93	OP	OP
LUBANG	VOR		ASI 1150, 100W	117.5	11/10/94	12/12/96	OP	OP
	DME		ASI 1119, 1KW, CH-122X		11/10/94	12/12/96	OP	OP
MACTAN	DVOR		TOSHIBA TW-1202, 100W	114.5	05/20/94	05/20/94	OP	OP
	DME		NEC NNG-570B, 1KW, CH-90X		05/20/94	05/20/94	OP	OP
	LLZ-1		ASI 1100, 15W, RWY 04	109.9	06/03/94	06/03/94	OP	OP
	DME-1		ASI 1118, 100W, CH-36X, RWY 04		06/03/94	06/03/94	OP	OP
	G/S-1		ASI 1110, 5W, RWY 04	333.8	06/03/94	06/03/94	OP	OP
	NDB	331	TOSHIBA JRC, 100W		05/20/94	05/20/94	OP	OP
	LLZ-2		NEC NNG-691, 15W, RWY 22	109.1	09/23/94	09/23/94	OP	OP
	DME-2		NEC NNG-560B, 100W, CH-28X, RWY 22		09/23/94	09/23/94	OP	OP
	G/S-2		NEC NNG-692T, 5W, RWY 22	331.4	10/28/94	10/28/94	OP	OP
	PAPI		RWY 04/22		10/01/92	09/07/93	OP	OP
MANILA	DVOR		AWA VRB-500/ALCATEL SERIES 4000					
			50W/100W	113.8	11/10/96	11/20/96	OP	OP
	DME		WILCOX 596B/ALCATEL SERIES 4000					
			1KW, CH-85X		11/10/96	11/20/96	OP	OP
	LLZ-1		ALCATEL SERIES 4000, 15W					

Source:
Airways Maintenance Section
Air Navigation Service, ATO

表3.3.3 空港別航行援助施設リスト

(3)

LOCATION	EQPT. NAME	DESCRIPTION			DATE	DATE LAST	STATUS	
		KHZ	IDENTIFICATION	MHZ	INSTALLED	FLIGHT CHECKED	SYS-1	SYS-2
MARINDUQUE			RWY 06	109.1	12/20/96	01/10/97		
	DME-1		ALCATEL SERIES 4000, 100W, CH-28X		07/09/96			
	G/S-1		RWY 06	331.4	12/20/96	01/17/97	OP	OP
	NDB	389	SAC SA-100, 100W,		06/01/93	07/09/96		U/S
	LLZ-2		ALCATEL SERIES 4000, 15W					COMM 11/7/96
			RWY 24	109.9				
	DME-2		ALCATEL SERIES 4000, 100W					COMM 11/10/96
			CH-36X, RWY 24					
	G/S-2		ALCATEL SERIES 4000, 5W					COMM 11/10/96
			RWY 24	333.8				
	MM		IW, RWY 24/06	75				OP 10/24/96
	OM		IW, RWY 24/06	75	11/28/95			OUT OUT
	OL	375	ASI SA-100, 100W, RWY 24					OP 10/24/96
	OL	400	ASI SA-50, 50W, RWY 06					
	PAPI		RWY 06/24, RWY 13/31		11/07/94	07/26/96	OP	OP
SALS		RWY 06/24			11/14/96	OP	OP	
PAPI		RWY 16/34		10/18/93	04/08/95	OP	OP	
MASSATE	VOR		WILCOX 585B, 100W	115.7	05/17/90	09/20/96	OP	OP
NAGA	VOR		WILCOX 585B, 100W	114.7	04/29/90	09/03/96	OP	OP
	DME		WILCOX 596B, 1KW, CH-94X			09/03/96		FOR FIC
	NOB		TMC		09/13/96		OP	OP
	VASI		RWY 04/22		02/01/95	09/20/96	OP	OP
PAGADIAN	NDB	242	S00W		09/10/83	05/20/96	OP	OP
PLARIDEL	NOB	295	TMC, 100W					OP
PT. PRINCESA	VOR		ASI 1150, 100W	115.9	03/13/94	09/21/95	OP	OP
	DME		ASI 1119, 1KW, CH-106X		03/13/94	09/21/95	OP	OP
	NOB	292	SAC SA-100, 100W		04/22/94	09/21/95	OP	OP
	OL	370	NAUTEL ND-500 II, 125W, RWY 09			09/21/95	OP	OP
	PAPI		RWY 09/27		09/12/89	03/10/95	OP	OP
	SALS		RWY 09/27		09/12/89	03/10/95		OP
RIZAL	NOB	327	SAC SA-100, 100W		06/01/93	07/09/96	U/S	U/S, 8/8/96
ROSARIO	NOB	285	SAC SA-1000, 1KW		04/23/93	10/12/96	OP	OP
ROXAS	VOR		WILCOX 585, 100W	112.9	1980	07/29/92	OP	OP
	PAPI		RWY 14/32		07/29/92	07/29/92	OP	OP
	SALS		RWY 14/32		07/29/92	07/29/92		OP
SN. FERNANDO	VOR		WILCOX 585B, 100W	114.5	12/11/90	03/26/94	OP	OP
SANGA-SANGA	NDB	204	SAC SA-100, 100W		05/11/93	06/11/93	OP	OP
	DME		ASI 1119, 1KW, CH-97X		06/11/93	06/11/93	OP	OP
SAN JOSE	VOR		WILCOX 585B, 100W	117.1	05/11/94	09/06/96	OP	OP
	DME		ASI 1119, 1KW, CH-118X		05/11/94	09/06/96	OP	OP
	PAPI		RWY 10/28		10/13/93	09/06/96	OP	OP
SUBIC	DVOR		ALCATEL, 50W	113.5	04/28/95	04/28/95	OP	OP
	DME		ALCATEL, 1KW, CH-92X		04/28/95	04/28/95	OP	OP
	LLZ		ALCATEL, 15WRWY 07	109.75	12/17/96	12/17/96	OP	12/17/96
	G/S		ALCATEL, 5W, RWY 07	333.05	07/08/95	07/08/95		12/17/96
	DME		ALCATEL, 100W, CH-34Y, RWY 07		06/27/95	07/08/95		12/17/96
	NOB	366	NAUTEL NX-1000, 500W		04/28/95	12/17/96		10/24/96
	PAPI		RWY 07/25		06/18/93	12/17/96		
	REIL		RWY 07/25		06/18/93	12/17/96		
	SALS		RWY 07/25		06/18/93	12/17/96		
SURIGAO	NOB	415	NAUTEL ND-500 II, 125W					FOR FIC
	VASI		RWY 18/36					FOR FIC
TACLOBAN	VOR		TOSHIBA TW-1233L, 100W	115.5	06/24/84	08/26/96		NTM 8/26/96
	DME		NEC NNG-570, 1KW, CH-102X		06/24/84	08/26/96		

Source:
Airways Maintenance Section
Air navigation Service, ATO

表3.3.3 空港別航行援助施設リスト

(4)

LOCATION	EOPT. NAME	DESCRIPTION			DATE		STATUS	
		KHZ	IDENTIFICATION	MHZ	INSTALLED	FLIGHT CHECKED	SYS-1	SYS-2
TAGBILARAN TANDAG TUGUEGARAO	PAPI		RWY 18/35		06/24/85	08/25/95		OP
	SALS		RWY 35		06/24/84	08/25/95		OP
	PAPI		RWY 17/35		09/28/95	12/27/96		OP
	NOB	232	NAUTEL NX-1000, 500W		09/10/93	09/10/93	OUT	OUT
	VOR		WILCOX 585B, 100W	112.1				FOR F/C
VIRAC	DME		WILCOX 596B, 1KW, CH-58X					FOR F/C
	VASI		RWY 17/35			01/05/95		OUT, 6/17/1995
	NOB	268	TOSHIBA JRC, 100W		11/18/94	11/18/94	OP	OP
ZAMBOANGGA	VASI		RWY 06/24		06/24/95	06/24/95	OP	OP
	VOR		WILCOX 585, 100W	113.9	02/25/94	02/25/94	OP	OP
	DME		NEC NNG-570B, 1KW, CH-85X		12/06/94	02/25/94	OP	OP
	NOB	304	AEROCOM 1000L, 1KW		12/06/94	02/25/94	OP	OP
	LLZ		ASI 1100, 15W, RWY 09	109.1	07/14/95	07/14/95		OP
	DME		ASI 1119, 100W, CH-28X, RWY 09		07/14/95	07/14/95		OP
	G/S		ASI 1110, 5W, RWY 09	331.4	07/14/94	07/14/94		FOR F/C
	PAPI		RWY 09/27		02/25/94	02/25/94		OP
SALS		RWY 09/27		02/25/94	12/05/95		OP	
LEGEND:								
							OP	Operational
							OUT	On Test
							U/S	Unserviceable
							DECOM	Decommissioned
							COMM	Commissioned
							DEF	Defective
							F/C	Flight Check
							NTM	Notam

Source:
Airways Maintenance Section
Air navigation Service, ATO

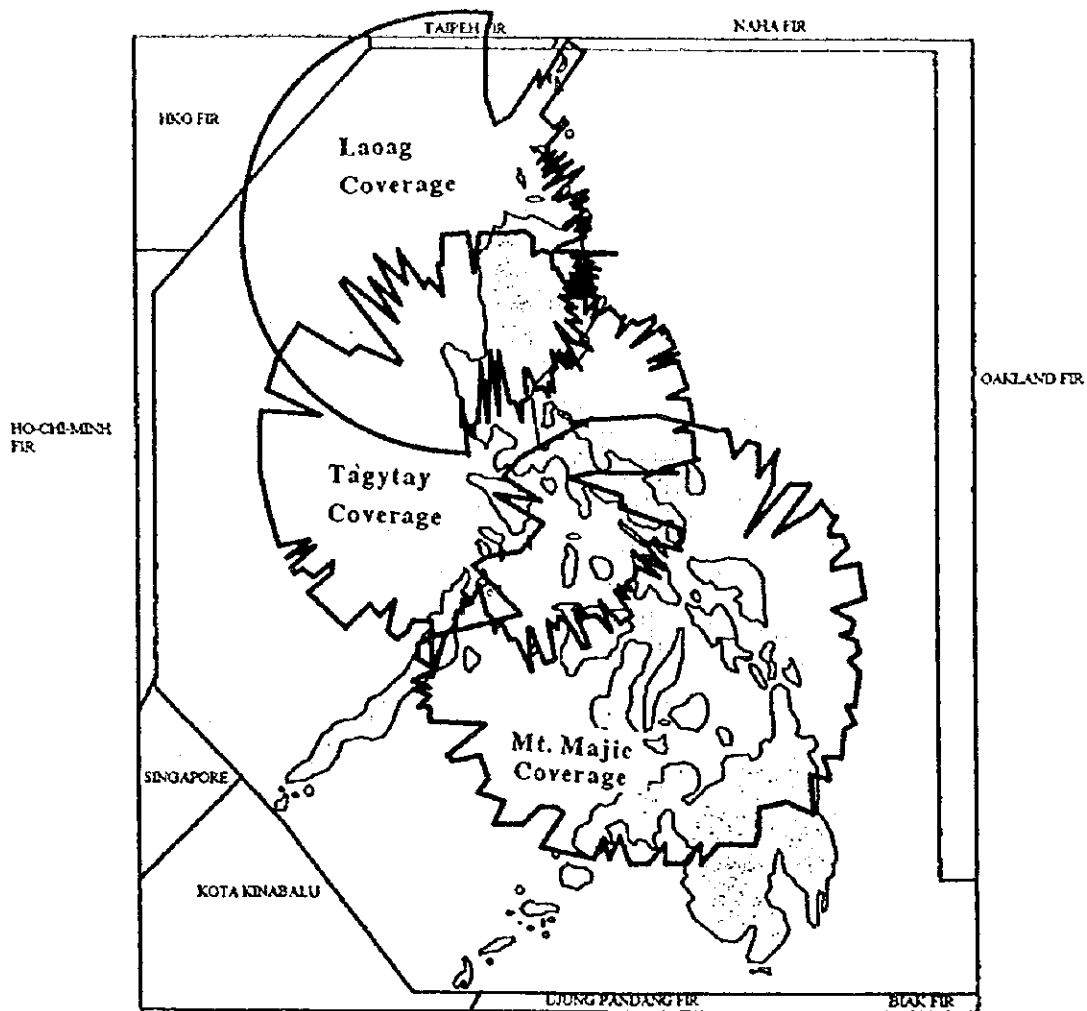


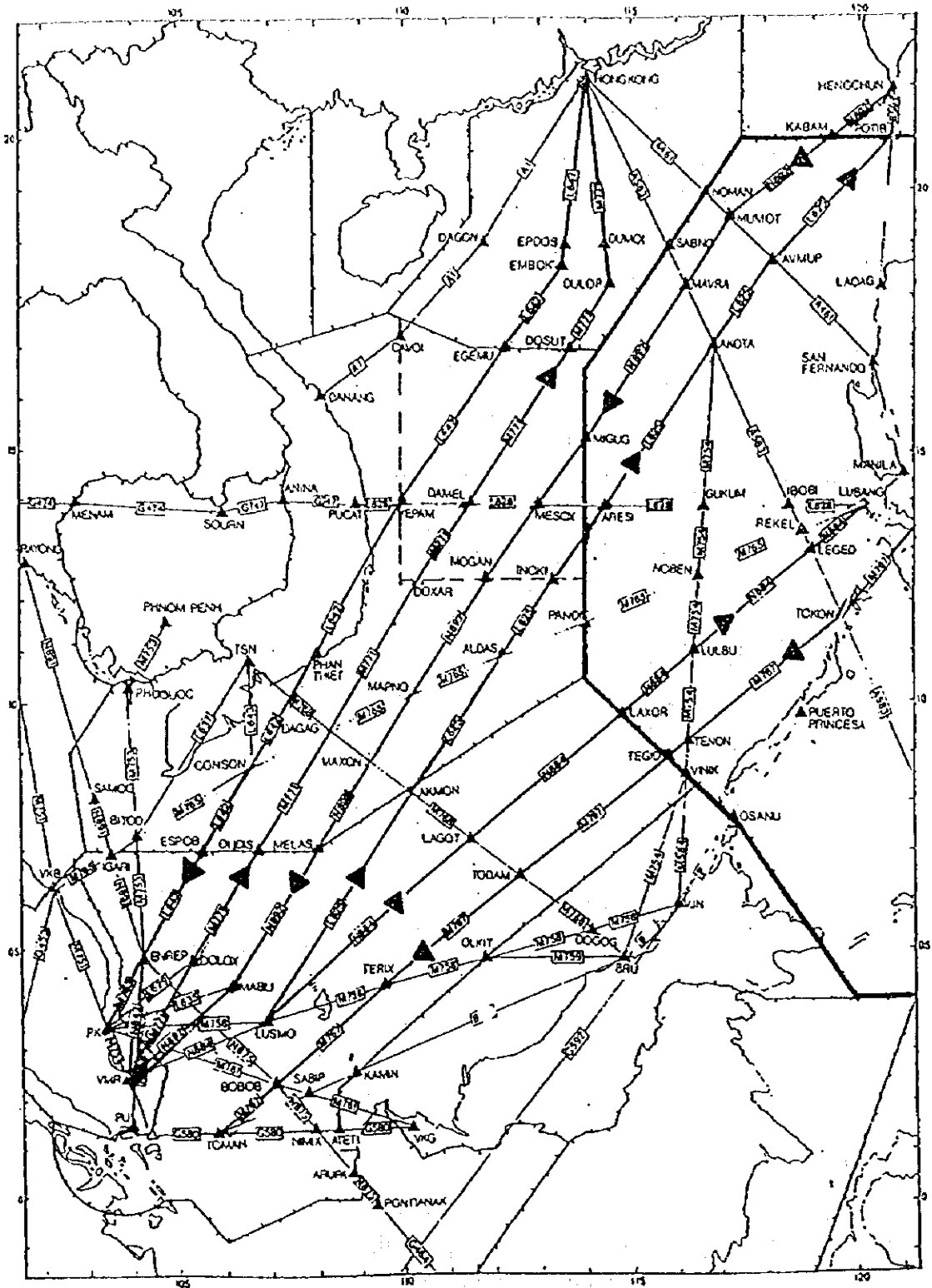
図3.3.4 レーダー覆域

資料：“The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan”, Final Draft, August 28, 1997, ATO

表3.3.4 空港別監視施設リスト

EQUIPMENT INVENTORY					
GROUP: SURVEILLANCE					
EXISTING EQUIPMENT					
LOCATION	EQPT. NAME	QTY.	DESCRIPTION	DATE INSTALLED	STATUS
Manila	ASR	2	TW 1038J, TOSHIBA	1979	Operational
Manila	SSR	2	TW 1398A, TOSHIBA	1984	Operational
Mactan	ASR	2	NPG-360B, NEC	1994	Operational
Mactan	SSR	2	NPG-90SF, NEC	1994	Operational
Subic	ASR	2	ASR-9, WESTINGHOUSE	1994	Operational
Subic	SSR	2	AN-PTX-54 (V) HAZELTINE CORP.	1994	Operational
Tagaytay	ARSR	2	TW 1253B, TOSHIBA	1984	Operational
Tagaytay	SSR	2	TW 1398B, TOSHIBA	1984	Operational
Laoag	MSSR	2	RSM-970 THOMSON-CSF MODE S COMPATIBLE	1995	Operational
Mt. Majic, Cebu	MSSR	2	RSM-970 THOMSON-CSF MODE S COMPATIBLE	1995	Operational

Source:
Airways Maintenance Section
Air Navigation Service, ATO



RNAV Routes Effective 24 April 1997

— Parallel Directional RNAV Routes

↔ Bi-directional RNAV Routes

図3.3.5 広域航法 (RNAV) 適用航空路

資料: "The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan", Final Draft, August 28, 1997, ATO

表3.3.5 主要空港別空港施設概要 (1)

Facilities	NAIA	Clark	Subic	Laoag
1. Annual Passenger	12,283,882	8,068	30,519	75,798
2. Annual Cargo (tons)	354,583	Handcarried		120,152
3. Annual Aircraft Movements	168,603	3,581	21,612	3,924
4. Largest Aircraft	B747	B747	B747	B747
5. Longest Haul				
6. Aerodrome Reference Code	U.S.A. / EUP		RPLB	RPLI
7. Operational Category	Int'l	Int'l	Int'l	Int'l
8. Runway Length	3,737 m	3,200 m	3,077 m	2,420 m
Width	2,475 m 60 m 45 m	45 m	60 m	45 m
9. Runway Strip Length	2,800 m	3,800 m	3,044 m	2,790 m
Width	300 m	60 m	300 m	300 m
10. Taxiway System	22 m	22 m	N-1,500 x 24 m	2-120 m
Width	15 m		S-1,500 x 18 m	25 m
11. Passengers Loading Apron	24,195 sq. m			285m x 54m
12. Passenger Terminal Building	ok	ok	10,000 sq. m	ok
13. Cargo Terminal Building	ok			
14. Administration Building	Term. Bldg.	Term. Bldg.	Term. Bldg.	Term. Bldg.
15. Fire Station Building	Category 9	Category 9	Category 9	Category 6
16. Access Road	Concrete	Concrete	Concrete	Concrete
17. Car Park	Available	Available	Available	Available
18. Air Navigation Facilities	NDB DVOR DME LLZ-06 DME-06 G/S-06 LLZ-24 DME-24 G/S OL-06 OL-24 MM-06 MM-24 OM-06 OM-24	VOR DME NDB LLZ DME G/S PAPI	NDB DVOR DME LLZ-07 DME-07 G/S-07	VOR DME NDB PAPI SALS
19. Rescue and Fire Fighting Category	9	9	9	9
Fire Vehicles				
20. Public Utilities Power Supply	Adequate		SBMA	UNK
Water Supply	Adequate			UNK
Sewage Disposal	Septic		Septic	Septic
Solid waste Disposal	Septic		Septic	
Telephone Trunk Line	832-19-61		3460	
21. Fuel Supply Facility Tank Capacity	Prior notice required			

資料: "The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan", Final Draft, August 28, 1997, ATO

表3.3.5 主要空港別空港施設概要 (2)

Facilities	Mactan	Davao	Puerto Princesa
1. Annual Passenger	2,402,907	885,305	180,578
2. Annual Cargo (tons)	46,419,297	26,995,447	3,633,098
3. Annual Aircraft Movements	45,752	13,552	6,130
4. Largest Aircraft	B747	AIR BUS	AIR BUS
5. Longest Haul	ASIA/USA	Indonesia	Manila
6. Aerodrome Reference Code	RPVM	RPMD	RPVP
7. Operational Category	Int'l	Int'l	Trunkline
8. Runway			
Length	2,720 m	2,500 m	2,960 m
Width	46 m	45 m	45 m
9. Runway Strip			
Length	4,230 m	2,770 m	150 m
Width	300 m	200 m	
10. Taxiway			
System	11 - 25 m	2 - 65 m	2 - 85
Width	wide	21 m	x 24
11. Passengers Loading Apron	1,200m x 306m	150m x 80m	200m x 100m
12. Passenger Terminal Building	ok	3205 m (2-Sto.)	
13. Cargo Terminal Building			Term. Bldg.
14. Administration Building	Term. Bldg.	Term. Bldg.	Term. Bldg.
15. Fire Station Building	Category 9	Category 8	Category 6
16. Access Road	Concrete	Concrete	
17. Car Park	Available	Concrete	Available
18. Air Navigation Facilities	DVOR DME LLZ-1 DME-1 G/S-1 NDB LLZ-2 DME-2 G/S-2 PAPI	NDB DVOR DME LLZ-1 DME-1 G/S-1 LLZ-2 DME-2 G/S-2	VOR DME NDB OL PAPI SALS
19. Rescue and Fire Fighting			
Category	9	8	8
Fire Vehicles			
20. Public Utilities			
Power Supply	Adequate	Adequate	UNK
Water Supply	Adequate	Adequate	UNK
Sewage Disposal	Septic	Septic	Septic
Solid waste Disposal	Septic	Septic	
Telephone Trunk Line			
21. Fuel Supply Facility			
Tank Capacity	Prior notice required	Prior notice required	

資料： "The Philippines Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Systems Transition and Implementation Plan", Final Draft, August 28, 1997, ATO

PULL CNS/ATM EQUIPMENT

Both Aircraft and Ground

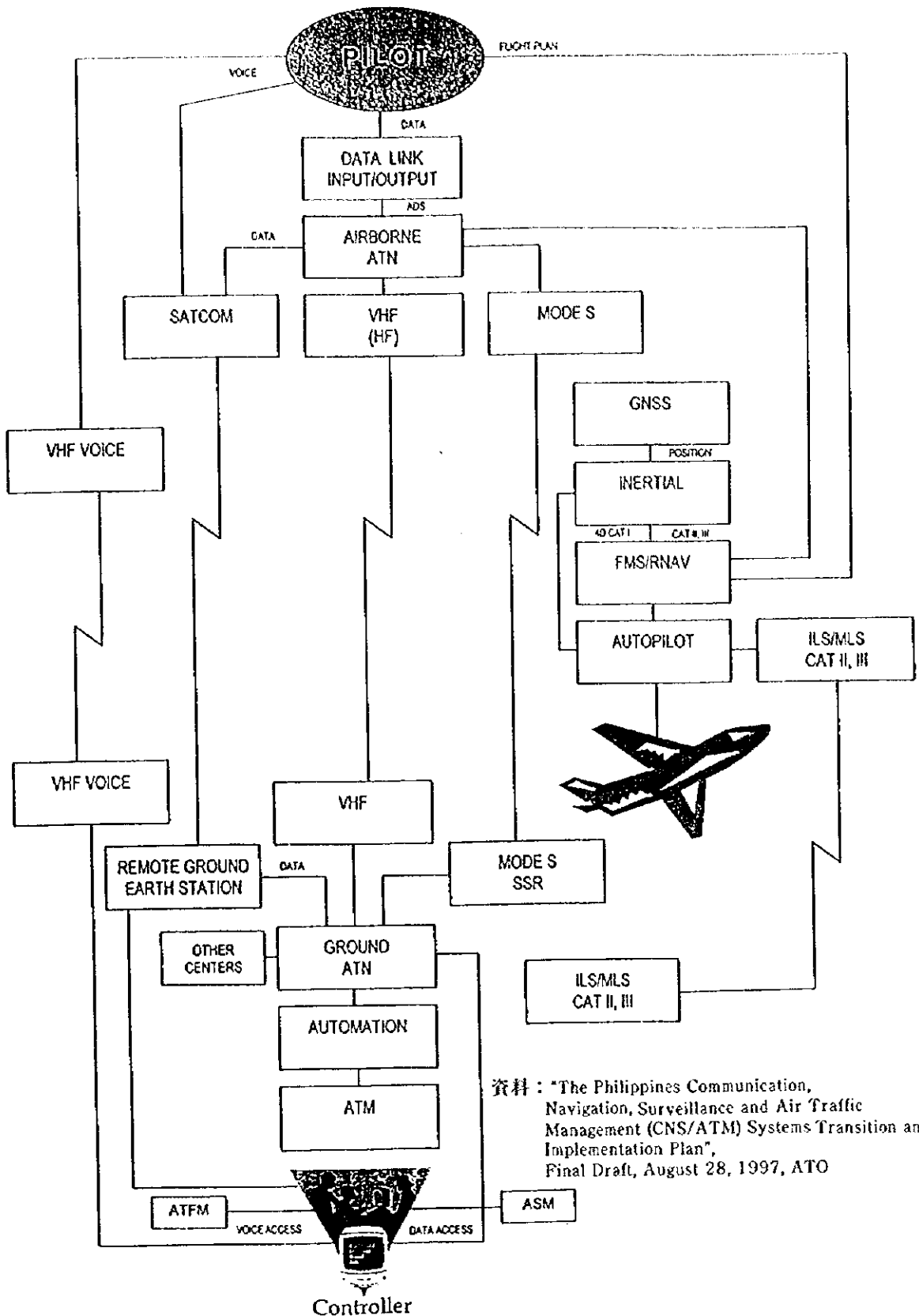


図3.4.1 CNS/ATM システム完成時施設概要

表3.6.1 地域別無線登録者数

JUNE 1994

NIC(MLS)

ODF/NIC MONTHLY REPORT
NIC REGIONAL OPERATIONS

III-EXISTING RADIO STATIONS BY REGIONS

	NCR	R-1	R-2	R-3	R-4	R-5	R-6	R-7	R-8	R-9	R-10	R-11	R-12	TOTAL
CITIZENS BAND	0	0	0	0	0	0	5	5	0	7	25	104	11	157
AMATEUR STATIONS	8,975	999	61	2,819	2,202	541	1,817	2,192	568	694	1,587	1,455	1,625	24,839
AMATEUR REPEATER	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PORTABLE	4,676	406	56	949	1,232	201	212	2,451	19	67	527	1,117	74	11,981
LAND MOBILE	7,533	354	97	474	433	144	332	653	34	65	424	929	46	11,517
LAND BASE	2,058	133	73	405	313	119	110	615	2	67	132	192	67	4,292
REPEATER	77	23	40	13	66	8	28	82	4	10	17	51	4	423
SHIP	2,106	5	0	14	56	85	459	450	15	87	7	393	20	3,697
COAST	623	1	0	10	0	7	33	24	0	6	2	41	2	749
AIRCRAFT	463	0	0	0	2	4	5	14	0	4	1	12	0	508
AERONAUTICAL	11	4	4	1	1	23	5	6	4	14	6	11	2	92
TRAINING SCHOOL	18	15	4	9	11	21	12	6	3	5	13	13	10	140
GOV'T (CO)	1,248	707	263	113	82	250	758	744	405	293	197	370	153	5,563
AM B'CAST	28	32	10	14	18	23	25	18	17	17	28	25	8	267
FM B'CAST	25	24	6	8	2	19	24	25	5	12	11	20	7	188
SW B'CAST	2	0	0	3	0	0	0	0	0	0	0	0	0	13
TELEVISION	6	0	0	0	0	8	8	8	2	15	9	8	0	66
CATV	0	0	0	41	0	10	15	17	16	10	0	0	7	116
VIDEO	0	0	0	0	0	9	0	0	10	0	0	0	14	33
TV DELAY LATOR	0	7	3	10	28	0	3	9	2	2	10	2	0	76
PT TO PT (CO)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PT TO PT (CV)	2,920	367	228	149	1,024	233	530	916	158	225	185	654	76	7,865
PT TO PT (CP)	210	123	143	28	0	154	207	177	25	138	0	56	15	1,276
RADIO NAVIGATION	0	0	2	0	0	4	16	0	0	3	0	1	1	27
EARTH STATION	0	0	0	0	0	0	0	0	0	31	0	0	0	31
PAGING STATION	0	0	0	0	0	0	0	0	0	0	0	2	0	2
PAGING BASE	0	0	0	0	0	0	4	0	0	1	0	0	0	5
PAGING SUBSCRIBER	0	0	0	0	0	0	945	0	0	0	0	0	0	945
CIVIC ACTION RA- DIO NETWORK(BASE)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CELLULAR BASE	0	0	0	2	0	0	2	0	0	0	0	1	0	5
GPRS Base	0	7	34	0	0	0	0	0	1	0	0	59	0	101
GPRS Mobile	0	3	17	0	0	0	0	0	2	0	0	24	0	46
GPRS Portable	0	137	17	0	0	0	0	0	3	0	0	794	0	951
PRS BASE	803	214	171	1215	365	44	1,056	613	69	318	1,308	470	407	7,073
PRS BASE SRA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CELLULAR MOBILE	0	1	0	0	0	0	1,600	0	0	0	0	0	0	1,601
CELLULAR PORTABLE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRS MOBILE	987	184	100	1164	254	43	428	215	18	97	1,459	200	88	5,238
PRS M SRA	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPL STATION	0	19	4	31	0	0	1	29	27	0	0	1	0	812
PRS PORTA	1,551	800	249	1753	1,238	54	2,833	1,852	158	634	2,907	1,403	801	15,233
AUT. TX(BC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PRS HELP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SELFREMOTE CTRL	0	0	0	0	0	0	0	0	0	0	225	0	0	225
HC INF/SSOI	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VSAT SERVICE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HC AUX T'NIFFER	0	0	0	0	0	0	7	0	0	0	0	0	0	7
REMOTE PIECE-UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VSAT SUBSCRIBER	0	0	0	0	0	0	0	34	0	7	0	0	0	41
TOTAL	34,318	4,469	1,582	9,223	7,107	2,008	11,489	11,155	1,567	2,823	4,283	6,410	2,840	105,514

CO : Official (Government)

PRS : Personal Radio Service

CV : Private

GPRS : Government Personal Radio Service

CP : Public (Common Center)

SRA : Special Radio Authority

表3.6.2 地域別無線局数の推移

TABLE
EXISTING RADIO STATIONS PER REGION
1991 TO June 1994

REGION	1991	1992	1993	1994
Philippines	68,448	84,275	95,856	105,514
NCR	26,948	30,707	33,253	34,318
Region 1	2,588	3,226	3,963	4,469
Region 2	750	1,087	1,428	1,582
Region 3	4,320	6,433	8,098	9,223
Region 4	4,534	4,534	6,302	7,347
Region 5	1,730	1,741	1,821	2,008
Region 6	4,899	7,408	8,936	11,489
Region 7	8,813	11,874	10,358	11,155
Region 8	774	915	1,391	1,567
Region 9	1,911	2,400	2,752	2,823
Region 10	4,962	6,124	7,542	8,283
Region 11	4,701	6,143	7,461	8,410
Region 12	1,518	1,683	2,551	2,840

Source : National Telecommunications Commission, 1994
- used the value of 1992 for 1991

表3.6.3 無線周波数の新規割り当て数

NEW FREQUENCY ASSIGNMENTS

	HF	VHF	UHF	SHF	TOTAL
Notice of Freq. Supportability	52	199	727	28	1006
Frequency Assignment Sheet	34	212	2935	624	3805
TOTAL	86	411	3662	652	4611

表3.6.4 地域年度別電話回線容量 (電話普及率)

地域/年度	1991年	1992年	1993年
NCR	546,604 (6.684)	600,626 (7.287)	1,010,532 (13.203)
Region 1	26,711 (0.611)	33,619 (0.711)	26,503 (0.624)
Region 2	5,316 (0.183)	5,361 (0.183)	9,922 (0.357)
Region 3	39,493 (0.629)	43,160 (0.685)	50,524 (0.779)
Region 4	39,348 (0.474)	39,990 (0.479)	68,066 (0.858)
Region 5	7,300 (0.163)	9,050 (0.202)	9,083 (0.219)
Region 6	23,538 (0.407)	40,870 (0.708)	42,362 (0.896)
Region 7	53,384 (1.136)	42,700 (0.910)	76,395 (0.747)
Region 8	7,000 (0.205)	9,150 (0.268)	8,647 (0.291)
Region 9	6,072 (0.186)	10,250 (0.314)	14,856 (0.423)
Region 10	10,490 (0.283)	20,455 (0.460)	14,961 (0.353)
Region 11	19,876 (0.448)	22,548 (0.746)	25,070 (0.487)
Region 12	3,762 (0.125)	9,450 (0.313)	8,409 (0.222)
合計	788,894 (1.255)	887,229 (1.409)	1,365,330 (2.201)

NTC (National Telecommunications Commission) 1993 Annual Reportより

表3.6.5 会社別電話設備 (1993年12月末現在)

会社名	電話回線容量	比率 (%)
PLDT	808,371	85.85
RTDP/DIGITEL	19,164	2.04
NTP/DIGITEL	8,250	0.88
TELOF	8,250	0.88
CRUZ TEL. CO.	10,300	1.09
PILTEL	16,830	1.90
DATECOM	4,600	0.49
DIGITEL	13,142	1.40
PROV/GOVT.	13,142	1.40
その他	48,293	5.13
合計	941,632	100.00

NTC (National
Telecommunications Commission)
1993 Annual Reportより
PLDTは1993年10月時点、DIGITEL、
NTP、TELOF & PILTELは1993年12月
時点

表3.6.6 輸送機関別フィリピン国内推定輸送量(1987)

	旅客		貨物	
	輸送人キロ (10億人キロ)	割合 (%)	輸送トンキロ (10億トンキロ)	割合 (%)
道路	83.0	89	22.00	53
水路	8.0	9	19.00	47
空路	1.8	2	0.03	
鉄道	0.2	-	0.02	
計	93.0	100%	41.05	100%
日本のデータ				
1987年 総計	1,107		448	
“ 空路	38	3.4%	0.6	0.13%

(データ入手先：NEDA インフラ)

表3.6.7 自動車保有台数の推移

Year	Total	Cars	Utility Vehicles	Trucks	Buses	Motorcycles/ Tricycles	Trailers
1981	1,006,030	318,085	364,706	103,140	17,821	186,990	15,288
1982	1,087,180	342,049	385,310	106,874	17,358	218,443	17,146
1983	1,200,803	367,002	427,925	110,856	16,714	261,425	16,881
1984	1,165,557	360,722	416,721	102,071	15,279	253,333	17,431
1985	1,120,172	347,949	405,830	93,938	14,736	242,990	14,729
1986	1,185,832	356,688	416,554	95,218	14,974	288,625	13,773
1987	1,176,753	358,765	441,757	97,752	15,173	249,568	13,738
1988	1,270,483	376,646	475,099	108,027	15,083	280,902	14,726
1989	1,431,464	412,998	536,405	118,382	16,950	330,975	15,754
1990	1,620,242	454,554	615,603	130,973	18,341	382,426	18,345
1991	1,715,366	456,606	670,848	138,138	20,690	410,127	18,957
1992	1,879,563	483,622	744,190	146,689	25,827	458,938	20,297
1993	2,125,115	531,240	834,168	165,280	24,603	547,655	22,169
1994	2,341,469	572,766	912,675	179,793	27,595	624,292	24,348
1995	2,581,354	626,571	998,331	192,792	28,192	708,059	27,409

Source : Land Transportation Office of DOTC

PHILIPPINE NATIONAL RAILWAYS

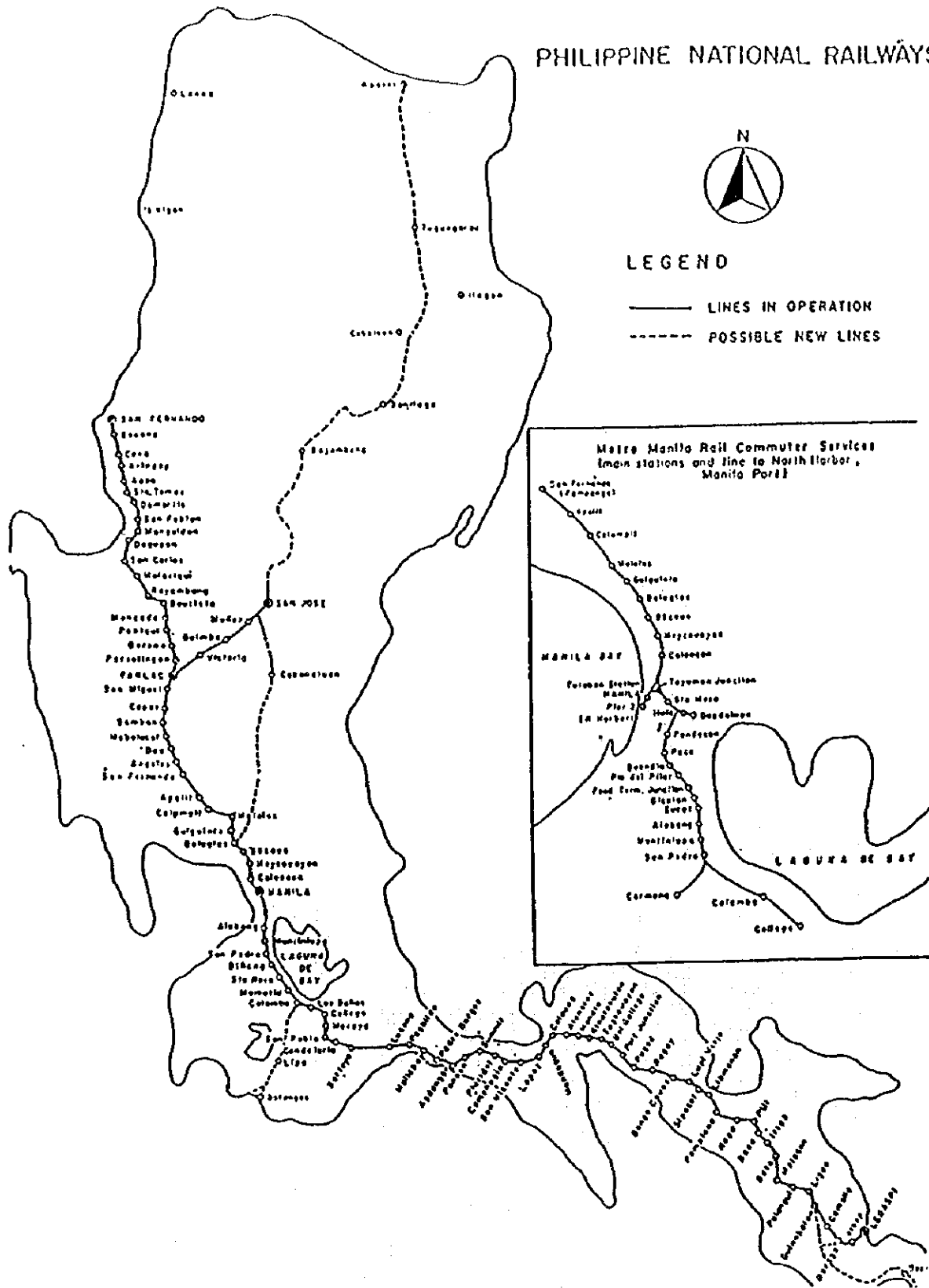


圖3.6.1 PNR 路線圖

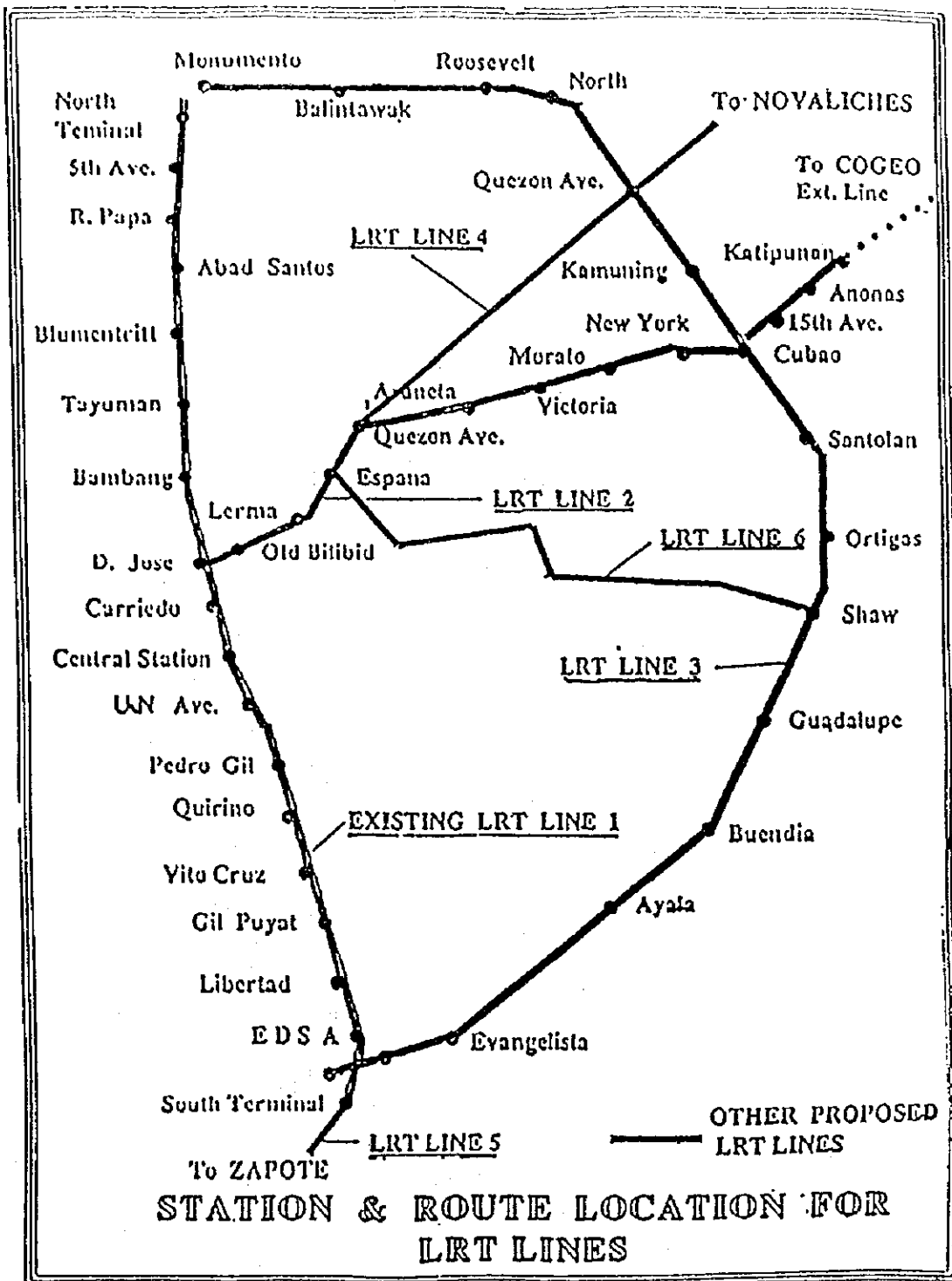
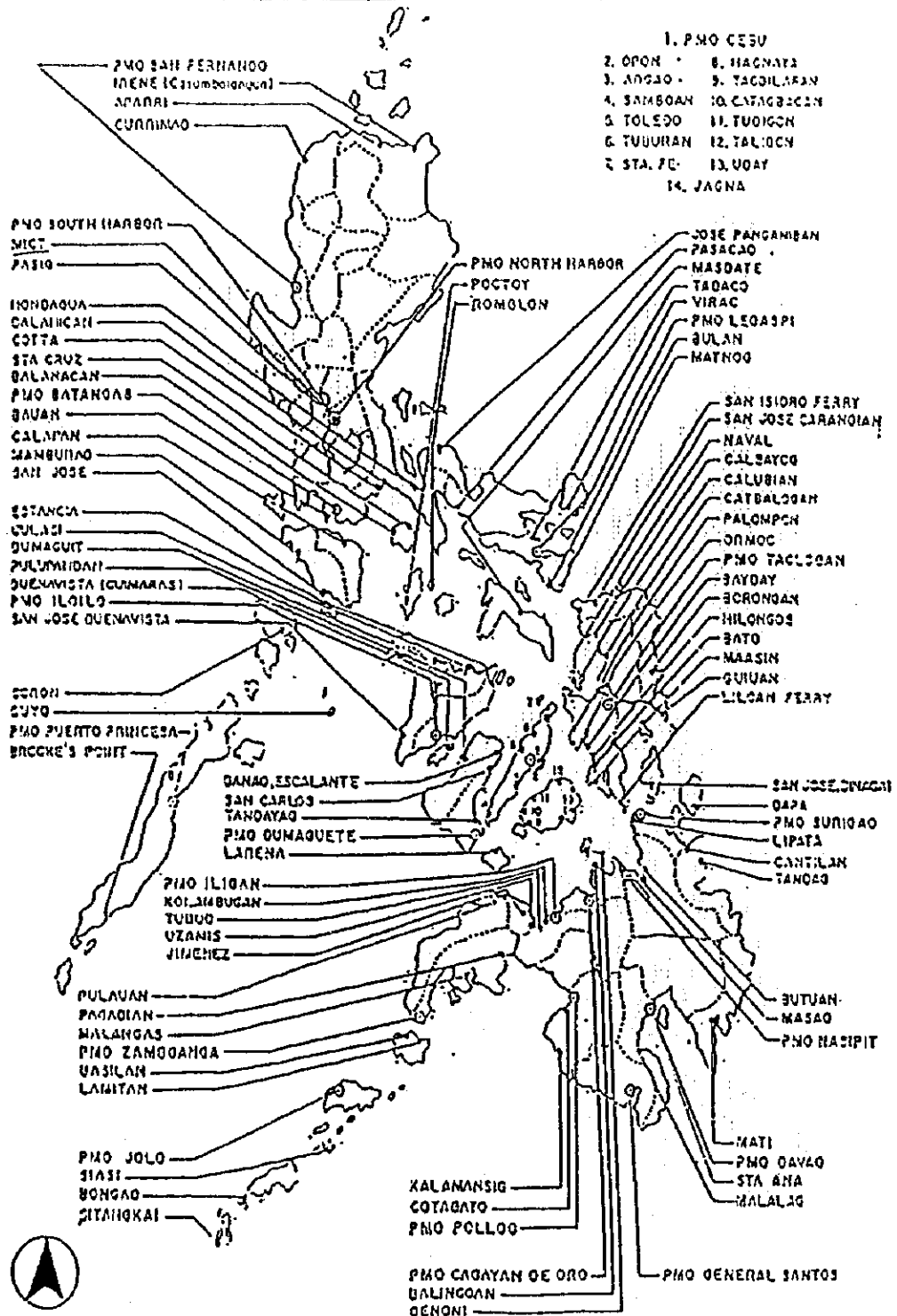


图3.6.2 LRT 路線圖

PPA PORT SYSTEM



PHILIPPINE PORTS AUTHORITY

图3.6.3 主要港湾の配置図

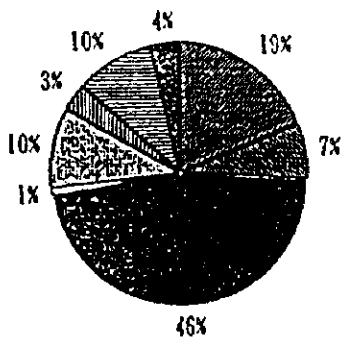


図3.6.4 商船団の船種構成 (隻数ベース)

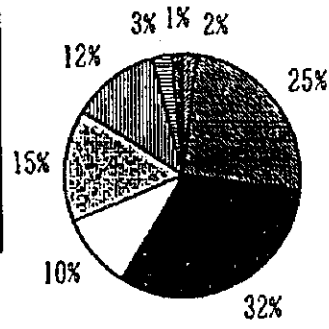
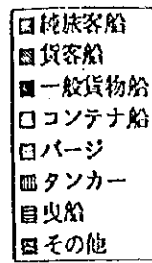


図3.6.5 商船団の船種構成 (総トンベース)

JICA

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