7.0 SEMINAR

7.0 SEMINARS

7.1 BACKGROUND

At the start of JUMSUT II, it was agreed with MOTC that the transfer of technology component of the study may be best achieved by conducting a training seminar on the use of microcomputers in transportation planning, in close coordination with the U.P. Transport Training Center (TTC). The selection of this subject matter has been justified by the following factors:

- JUMSUT I generated a collection of data about the Mero Manila transportation system and designed 3 packages of microcomputer programs which would be useful to MOTC planners;
- Need to raise the productivity of transport planning staff by relying on the latest available technology;
- The novelty of the subject matter and the corresponding lack of training opportunities.

Because of budgetary and staff-time constraints, only about forty (40) hours of training have been offered from September 1984 to February 1985.

7.2 STRUCTURE AND CONTENT

Information discussions with prospective trainees had established the need for fundamentals. Thus, four seminar modules of one day each and the three tutorial sessions were designed, as illustrated in Figure 7.1. The sequence was from the elementary to the more advanced, from simple to complex topics.

The seminars were primarily intended to provide the participants with a basic understanding of the microcomputer and its role in transportation, as well as a working knowledge of the relevant general-purpose software packages, such as electronic spreadsheets and project management. Tutorial sessions, on the other hand, were geared towards the orientation of the participants on the actual operation of the three ready-to-run JUMSUT I-developed application programs specific to the Metro Manila transportation system.

The course contents, schedule and attendance are briefly summarized in Table 7.1. The following is a detailed description of each course.

Seminar 10: Understanding Microcomputers

A prerequisite to all subsequent seminars, the objective of this first seminar was to provide participants with a basic understanding of the microcomputer technology. It was designed for professionals without prior background in micros or programming.

Figure 7.1
Structure of the JUMSUT II Micro-Training

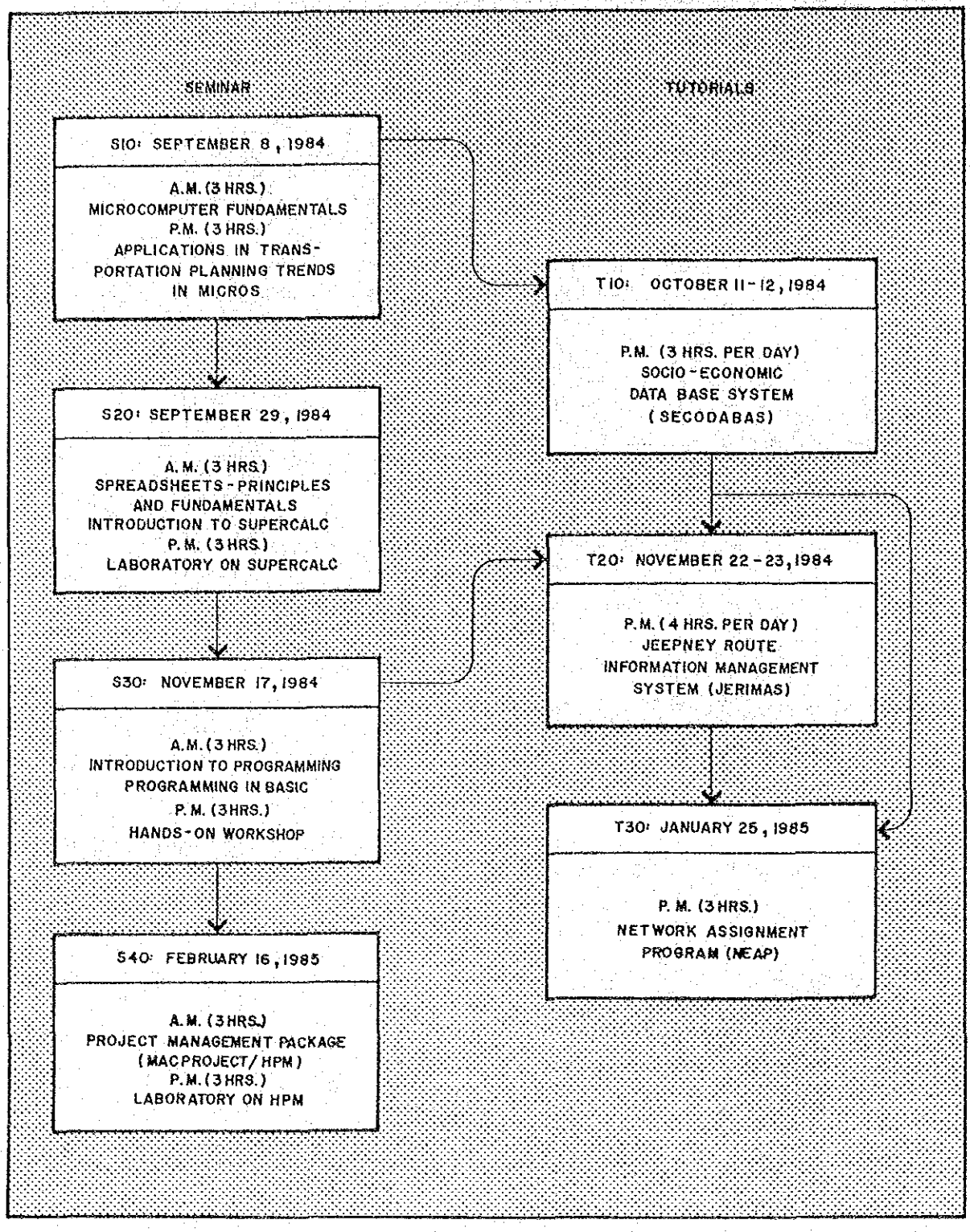

Table 7.1
Schedule of Seminars and Tutorials

Series No.	Course Title and Description	Date	Attendance
SEMINARS			
S10	Microcomputer Fundamentals Designed for the novice to gain a working knowledge of micros and their usefulness to transportation.	Sept. 8, 1984	30
S20	Spreadsheet Applications Working proficiency in SUPERCALC as a tool for analysis in transportation.	Sept. 29, 1984	22
S30	Programming in BASIC Introduction to computer programming using the most popular language – BASIC.	Nov. 17, 1984	20
S40	Project Management Introduction to MacProject and Harvard Project Manager (HPM as tools for scheduling, resource handling and management of projects.	Feb. 16, 1985	22
TUTORIALS			
T10	Socio-Economic Data Base System (SECODABAS) Running JUMSUT I-developed programs to process, access display in graphics, and manipulate the various 1980 Metro Manila socio-economic statistics.	Oct. 11-12, 1984	13
T20	Jeepney Route Information Management System (JERIMAS) Running and using JUMSUT I-developed programs to access, process, manipulate and display in graphics the data about Metro Manila jeepney routes and frequencies.	Nov. 22-23, 1984	10
T30	Network Assignment Program (NEAP) Running the JUMSUT traffic assignment model to determine vehicular volumes at designated road links.	Jan. 25, 1985	8

The morning sessions opened with an introduction to the fundamentals of the microcomputer, its components, basic terminologies, operating systems and general purpose softwares. The afternoon session proceeded with an overview of its applications, specifically in transportation, discussions of general technology trends and actual demonstrations of software packages available on the Fujitsu FM and Hewlett Packard (HP) micros.

After the seminar, participants were expected to be able to appreciate the uses and limitations of micros in transportation and take the next steps toward using them as tools in their work.

Seminar 20: Spreadsheet Applications

The objective of the course was to orient the participants on the principles and use of the electronic spreadsheet, one of the simplest but important planning tools for most managers and professionals. Even without any programming experience, planners can use this general purpose software for financial projections, traffic capacity planning, bus scheduling, economic evaluation, etc.

Participants were introduced to spreadsheet fundamentals, its capabilities, limitations and applications to transportation, using the most available and easy-to-use SUPERCALC software. They were taught screen formatting, simple commands, and formulas. In order to gain a working familiarity with the program, actual hands-on exercises on capacity restraint traffic assignment and computation of operational/financial statistics were given during both morning and afternoon sessions.

Seminar 30: Programming in BASIC

At this stage, it is assumed that seminar participants have already gained adequate understanding of the fundamentals and concepts of microcomputers learned from Seminar 10. This third seminar was designed for non–EDP personnel and was intended to introduced to the participants, the simplest and most popular high-level computer language known as BASIC.

The morning session started with an overview of the programming process and fundamental concepts of the language, including simple input/output commands, control statements and logical expressions. The whole afternoon session was spent for actual hands-on exercises to enable participants to have a feel of writing and actually running several programs.

Seminar 40: Project Management

The course introduced the participants to the two popular project management softwares in the market, i.e., Apple's MacProject and IBM's Harvard Project Manager (HPM), with the end in view of developing among them an appreciation of the value of microcomputers in project management.

The seminar opened with a review of project management concepts and PERT/CPM techniques as tools of scheduling and control. The evolution of computer applications was traced and an overview of MacProject used by Apple's Mackintosh was presented. Participants were then oriented to the HPM, its structure, functions, and basic commands for operation. With the use of the one IBM PC micro they were taught to build and revise road maps as well as to set up windows (screens) for scheduling, tracking and printing on the HPM.

Tutorial 10: Socio-economic Data Base System (SECODABAS)

Participants were taught basic procedures for operating SECODABAS using the 1980 JUMSUT socio-economic data about Metro Manila's transportation. Users had options to process, access, and manipulate data according to the 202/24 zoning system and utilize excellent color graphics of comparable statistical data in color contrast maps, histogram and line displays. In addition, data could be transformed and printed for simple future projection simulations and studies.

Tutorial 20: Jeepney Route Information Management System (JERIMAS)

Participants learned basic procedures for running the menu-driven set of programs which were designed to present data on all 744 Metro Manila jeepney routes and frequencies. Users had options to printout, sort, and retrieve jeepney route data, as well as display in color graphics individual routes or frequencies on the existing road network.

Tutorial 30: Network Assignment Program (NEAP)

The session started with a review of the fundamentals of network assignment and proceeded to a discussion of the basic structure and limitations of the network assignment program called NEAP which is a tool to determine vehicular traffic volumes at designated road links (for a maximum of 100 zones, in one or two-way modes). Participants were then taught basic procedures for data input and actual operation of the program.

7.3 METHODOLOGY

Profession-wise, the trainees were chiefly end-users with little or no computer experience. Therefore, the content and manner of training have been adjusted to meet their needs and level of computer comprehension. The classroom-type of instructions was selected and adopted, this being the most accepted method within the constraints of the project.

All seminar modules, except for the last one on project management held at MOTC, were conducted at TTC, on Saturdays. They were in the form of lectures, discussions and demonstrations, supplemented by hands-on exercise utilizing ten (10) Fujitsu FM microcomputers of TTC.

Tutorials, on the other hand, were scheduled on weekday afternoons at MOTC in the form of demonstrations and hands-on exercises, using two (2) NEC micro-computers. The emphasis was more on intensive skill development, the "how to's" rather than the "why's" of a topic.

Carefully selected reading materials and other relevant handouts were distributed at least two (2) days before the scheduled seminar or tutorial. Detailed programs for each seminar are attached as Appendices 7.1 to 7.4.

7.4 RESOURCE PERSONS AND PARTICIPANTS

Since the JUMSUT II seminars were being sponsored jointly with TTC, the majority of the lectures and resource persons (aside from JUMSUT II consultants) were TTC personnel themselves. In this way, the Project has been able to support the objective of utilizing TTC resources and facilities, both physical and human, with corollary payoffs. However, occasional guest speakers were also invited.

The tutorial sessions were closely supervised by the MOTC-MIS counterpart and a consultant of JUMSUT II. Registration during these tutorials were strictly limited to about ten (10) people to ensure personal supervision of the participants in learning how to operate the systems, and also to compensate for the limited capacity of the room and limited computers available.

The main recipients of the training were the Land Transportation Planning Division (LTPD) staff of MOTC. Other personnel of MOTC-MIS, Bureau of Land Transportation (BLT), Board of Transportation (BOT), Ministry of Public Works and Highways – Traffic Control Center (MPWH-TCC), as well as the Metro Manila Commission (MMC) Office of the Commissioner for Planning (OCP) and Traffic Operations Center (TOC), were also invited to attend. In addition, JUMSUT II local staff participated during the seminars. The total number of registered participants was thirty (30). The group distribution is summarized below.

Staff/Group	Number
MOTC-LTPD	11
MOTC-MIS	2
BLT	1
BOT	2
MPWH-TCC	2
MMC-OCP	2
MMC-TOC	4
JUMSUT II Staff	6
	30

APPENDICES

Appendix 1.1

List of Persons Related to JUMSUT Phase II

Ministry of Transportation and Communications (MOTC)

Conrado M. Dayrit III	—	OIC, Mgt. Info. Service
Jaime C. Ticatic	—	Chief, Computer Systems Div.
Samuel C. Custodio	—	Supervising Trans. Dev't. Officer
Bayani B. Tabajonda	—	Senior Trans. Dev't. Officer
Wilfredo C. Borbor	—	Senior Trans. Dev't. Officer
Ronald P. Bacani	—	Senior Trans. Dev't. Officer
Liberty H. Garcia	—	Comm. Dev't. Officer II
Lerio R. Leyson	—	Comm. Dev't. Officer II

Metro Manila Commission (MMC)

Teresita O. de Leon	—	Asst. Division Head
Evangeline V. Tablante	—	Planning Officer III
Soledad A. Cruz	—	Acting Executive Asst.

Board of Transportation (BOT)

Jose C. Campos, Jr.	—	Chairman
Raul V. Victorino	—	Commissioner (Board Member)
Ruben E. Tandoc	—	Executive Director
Ephraim I. Ramos	—	Senior Transport Systems Analyst

Bureau of Land Transportation (BLT)

Mariano R. Santiago	—	Director
Conrado K. Tolentino	—	Acting Executive Director
Franco F. Rimando	—	Asst. Director for Adm.
Menilia K. Mortel	—	OIC, Planning Division
Kiyoshi Shimizu	—	Consultant
Naotomo Asano	—	Consultant
Kiyosyi Takahashi	—	Consultant

National Economic Development Authority (NEDA)

Romeo A. Reyes	—	Director, Ext. Asst. Staff
Vicente Salazar	—	Asst. Director, Ext. Asst. Staff
Jesus M. Sunga	—	Director, Infrastructure Staff
Augusto B. Santos	—	Asst. Dir., Infrastructure Staff

Transport Training Center (TTC-UP)

Esteban O. Cases, Jr.	—	Deputy Director
Jose B. Mortero	—	Chief, Planning and Research Div.
Herculano Felias	—	Chief, Adm. Service Div.
Hisao Uchiyama	—	Consultant
Leopoldo V. Abis	—	NEC, Executive Director
Eduardo Serafin	—	Training Staff

Western Police District (WPD)

Romulo G. de la Cruz	—	Chief, Eng'g. Div. Traffic Bureau
Metelo E. Arias	—	Asst. Supt. for Traffic

Southern Police District (SPD)

Domingo V. Hilario	—	Asst. Supt. for Traffic

Eastern Police District (EPD)

Ernest I. Josef	—	Asst. Supt. for Traffic

Constabulary Highway Patrol Group (CHPG)

Alberto G. Dulay	—	Chief, Traffic

Progressive Development Corporation (PDC)

Jesus Araneta	—	VP, Eng'g. Services Division

Appendix 4.1
Land Use Characteristics

City/Municipality		R2/R2 R3/R3				Commercial			Utili-		Open		
		R1	+C1	+C1	Total	C2	C3	Total	Ind.	Inst.	ties	Space	Total
City of Manila	ha.	35	372	1.28	2200	195	297	492	260	371	118	434	3875
	%	0.9	0.9	65.7	57.5	5.2	6.4	11.6	6.8	9.7	3.0	11.4	
Pasay City	ha.	27	120	286	433	212	89	301	46	103	663	188	1734
	%	1.6	6.9	16.5	2.5	12.2	5.1	17.3	2.8	5.9	38.2	10.8	
Makati	ha.	503	464	131	1098	33	1687	201	86	232	0	249	1866
	%	27.0	25.9	7	58.9	1.8	9.0	10.8	4.6	12.4	0	13.3	
Mandaluyong	ha.	144	270	223	637	5	3	8	166	91	6	291	1199
	%	12.0	22.5	18.6	53.1	0.4	0.3	0.7	13.8	7.6	0.5	24.3	
San Juan	ha.	181	36	138	355	151	21	172	18	45	0	24	614
	%	29.4	5.9	22.5	57.8	2.5	3.1	28.1	2.9	7.3	0	3.9	
Quezon City	ha.	4709	1887	649	7245	213	44	257	407	936	1	7911	16757
	%	28.1	11.2	3.9	43.2	1.3	0.2	1.5	2.5	5.6	0	47.2	
Caloocan City	ha.	476	519	348	1343	119	1	120	201	193	20	3603	5480
	%	8.7	9.5	6.3	24.5	2.1	0	2.1	3.7	3.5	0.4	65.8	
Valenzuela	ha.	1336	73	65	1474	45	0	45	621	6	2	2405	4553
	%	29.4	1.6	1.4	32.4	1.0	0	1.0	13.6	0.1	0	52.9	
Malabon	ha.	297	280	120	697	24	0	24	185	29	0	838	1773
	%	22.3	15.8	1.2	39.3	1.4	0	1.4	10.4	1.6	0	47.3	
Navotas	ha.	63	188	69	320	0	45	45	54	11	0	691	1121
	%	5.7	16.8	6.1	28.6	0	4.0	4.0	4.8	1.0	0	61.6	
Marikina	ha.	1100	10	0	1110	162	0	162	266	49	0	728	2315
	%	47.6	0.4	0	48	7.0		7.0	11.5	2.1	0	31.4	
Pasig	ha.	697	246	140	1083	114	0	114	466	31	0	1842	3536
	%	20.0	7.0	3.6	30.6	3.2	0	3.2	13.2	0.9	0	52.1	
Pateros	ha.	0	109	5	114	10	0	10	1	6	0	76	207
	%	0	52.7	2.4	55.1	4.8	0	4.8	0.5	2.9	0.4	67.2	
Taguig	ha.	0	85	358	443	3	0	3	93	804	18	2775	4136
	%	20.0	2.1	8.7	10.8	0	0	0	2.2	19.4	0	52.1	
Paranaque	ha.	1403	121	86	1610	41	0	41	80	18	30	2512	4291
	%	32.7	2.8	2.0	37.5	1.0		1.0	2.0	0.3	0.7	58.5	
Muntinlupa	ha.	936	122	27	1085	43	0	43	74	196	0	2261	3659
	%	25.6	3.3	0.8	29.7	1.2		1.2	2.0	5.4		61.7	
Las Pinas	ha.	1396	73	15	1484	27	0	27	17	10	0	2326	3864
	%	36.1	1.9	0.4	38.4			0.7	0.4	0.3		60.2	
TOTAL	ha.	13303	4640	4788	22731	1397	668	2065	3041	3131	858	29154	60980
	%	21.8	7.6	7.9	37.3	2.3	1.1	3.4	4.9	5.1	1.5	47.8	100

Wherein:

- R1 = Low Intensity Residential
- R2 = Medium Intensity Residential
- R3 = High Intensity Residential
- C1 = Low Intensity Commercial
- C2 = Medium Intensity Commercial
- C3 = High Intensity Commercial

Appendix 4.2
Open Space Areas

City/Municipality		Vacant Area	Agri-culture	Fish-pond	Park/ Ceme-tery	Race Track/ Golf Club etc.	Water Surface	Mt./ Hills	Total
City of Manila	ha.	144	5	0	164	37	84	0	434
	(%)	(33.0)	(1.0)	(–)	(38.0)	(9.0)	(19.0)	(–)	(100%)
Pasay City	ha.	179	0	0	9	0	0	0	188
	(%)	(95.0)	(–)	(–)	(5.0)	(–)	(–)	(–)	(100%)
Makati	ha.	58	0	0	40	120	31	0	249
	(%)	(23.0)	(–)	(–)	(16.0)	(48.0)	(13.0)	(–)	(100%)
Mandaluyong	ha.	105	18	0	147	0	21	0	291
	(%)	(36.0)	(6.0)	(–)	(51.0)	(–)	(7.0)	(–)	(100%)
San Juan	ha.	24	0	0	0	0	0	0	24
	(%)	(10.0)	(–)	(–)	( )	(–)	(–)	(–)	(100%)
Quezon City	ha.	2,639	0	0	775	0	139	4,358	7,911
	(%)	(33.0)	(–)	(–)	(10.0)	(–)	(2.0)	(55.0)	(100%)
Caloocan City	ha.	2,459	981	0	132	0	31	0	3,603
	(%)	(68.0)	(27.0)	(–)	(4.0)	(–)	(1.0)	(–)	(100%)
Valenzuela	ha.	76	1,863	414	0	0	52	0	2,405
	(%)	(3.2)	(77.4)	(17.2)	(–)	(–)	(2.2)	(–)	(100%)
Malabon	ha.	183	129	388	0	20	118	0	838
	(%)	(21.9)	(15.3)	(46.3)	(–)	(2.4)	(14.1)	(–)	(100%)
Navotas	ha.	82	0	529	0	0	80	0	691
	(%)	(11.9)	(–)	(76.5)	(–)	(–)	(11.6)	(–)	(100%)
Marikina	ha.	164	127	0	30	3	56	348	728
	(%)	(22.6)	(17.4)	(–)	(4.1)	(0.4)	(7.7)	(47.8)	(100%)
Pasig	ha.	217	1,515	0	7	0	103	0	1,842
	(%)	(11.8)	(82.2)	(–)	(0.4)	(–)	(5.6)	(–)	(100%)
Pateros	ha.	13	63	0	0	0	0	0	76
	(%)	(17.1)	(82.9)	(–)	(–)	(–)	(–)	(–)	
Taguig	ha.	320	821	0	0	0	66	1,568	2,775
	(%)	(11.5)	(29.6)				(2.4)	(56.5)	
Paranaque	ha.	400	713	216	80	0	78	1,025	2,512
	(%)	(15.9)	(28.4)	(8.6)	(3.2)		(3.1)	(40.8)	
Muntinlupa	ha.	507	419	0	34	0	11	1,290	2,261
	(%)	(22.4)	(18.5)		(1.5)		(0.5)	(57.1)	
Las Pinas	ha.	990	241	189	3	0	74	829	2,326
	(%)	(42.6)	(10.4)	(8.1)	(0.1)	(–)	(3.2)	(35.6)	(100%)
TOTAL	ha.	8,560	6,895	1,736	1,421	180	944	9,418	29,154
	(%)	(29.4)	(23.6)	(6.0)	(4.9)	(0.6)	(3.2)	(32.3)	(100%)

Appendix 4.3
Sources of Existing 1990 Land Use Framework
for Metro Manila

Source	1980 Population (000)	Projected 1990 Figures			Car Owning Rate (%)
		Population (000)	Employ-ment Rate (%)	School Attendance Rate (%)	
* Sewerage and Sanitation Masterplan (1979, MWSS)	6,250	9,342	–	–	–
* Manila Water Supply II (1982, MWSS)	5,943	8,498	–	–	–
* MMETROPLAN (1977, DPWTC)	6,092	8,281	33.5	27.0 (vs. Pop.)	37.9
* Metro Manila Solid Waste Management Study (1982, Adhoc Committee, LOI 809)	5,925	8,650	–	–	–
* R10 and Related Roads Project (1982, MPWH)	6,092	8,281	–	–	–
* Feasibility Study for Manila Bataan Coastal Roads and Its Related Roads (C5-C6) Project (1980, MPWH)	6,136	8,405	–	–	–
* Manila Metrorail Network Study (198, MOTC)	5,910	8,281	38.2	31.7 (vs. Pop.)	–
* 1975 and 1980 Census of Population by Province, Municipality and Barangay and Forecasts (1982, NCSO/NEDA)	5,926	7,867	–	–	–
* Northern Package (1983, MPWH)	5,926	7,867	40.0	–	30.0
* Southern Package (1982, MPWH)	5,926	7,899	37.9	–	33.0
* Regional Development Frame-work Plan 1983-1992 (1982, MMC)	5,926	7,847	44.2	Elementary 91.0 Secondary 87.0 (vs. School Age Pop.)	–

Source: Metro Manila Commission

Appendix 5.1
Planning Guidelines by Corridor

	Southern Corridor			South-eastern Corridor		
	C-2	C-4	Peripheral	C-2	C-4	Peripheral
* 1980 Volume/ Capacity Ratio	1.2	1.4	1.0	0.7	1.0	1.3
* 1980 Jpy/Bus Share in Total P.C.U. Traffic	0.44	0.29	0.49	0.36	0.28	0.61
* 1990 Volume/ Capacity Ratio on 1990 Road Network						
– All Jpy Assump.	1.6 (1.2)[1/]	1.8 (1.5)[1/]	1.4	0.8	0.6	1.5
– All Bus Assump.	1.2 (1.0)[1/]	1.4 (1.2)[1/]	0.9	0.5	0.5	0.9
– All Jpy Assump. (w/side streets)	1.1 (0.8)[1/]	1.4 (1.1)[1/]	0.8	0.8	0.5	1.5
– All Bus Assump. (w/sidestreets)	0.8 (0.7)[1/]	1.1 (0.9)[1/]	0.6	0.5	0.4	0.9
* Direction for Rerouting	* Shift from jeepney to bus on major roads * Wider use of sidestreets * Use jeepney for primary service in peripheral areas * Strengthen premium bus service			* Basically as is * Winder use of side-streets is required along P. Gil, J.P. Rizal and Buendia considering possible detour traffic. * Use of jeepney in the peripheral area		
* Priority Mode by Road	* R-1 – Bus/private car * Taft Ave. – LRT/bus * Roxas Blvd. – private car * South Superhighway – private car/bus * Quirino Ave. – jeepney * Imelda Ave. – bus * L. Guinto/Mabini/M.H. del Pilar/ F.B. Harrison and other sidestreets – jeepney			* J.P. Rizal/P. Gil – jeepney * Buendia/Ayala – private car/bus * Pasay Road – private car/jeepney * Pasig Line, Malugay, Sampaloc and other sidestreets – jeepney		
Remarks	* Even after the proposed rerouting, traffic congestion may persist, in the area outside EDSA, where R-1 and/or LRT extension are likely.					

Note: 1/ Figures in parentheses show the estimates considering the LRT Line No. 1.

Cont'd.

	North-eastern Corridor			Northern Corridor				
	C-2	C-4	Peripheral	C-2		C-4		Peripheral
* 1980 Volume/ Capacity Ratio	1.3	0.8	0.4	0.9		0.9		
* 1980 Jpy/Bus Share in Total P.C.U. Traffic	0.70	0.52	0.18	0.68		0.60		0.50
* 1990 Volume/ Capacity Ratio on 1990 Road Network								
– All Jpy Assump.	1.3	0.8	1.3	1.3	(1.0)[1/]	1.3	(1.1)[1/]	1.5
– All Bus Assump.	0.9	0.5	1.0	0.8	(0.7)[1/]	0.9	(0.8)[1/]	1.0
– All Jpy Assump. (w/sidestreets)	0.7	0.7	1.3	1.1	(0.8)[1/]	1.1	(1.0)[1/]	1.5
– All Bus Assump. (2/sidestreets)	0.5	0.5	1.0	0.6	(0.6)[1/]	0.8	(0.7)[1/]	1.0
* Direction for	* Conversion of jeepney to bus in relation to España * Effective use of sidestreets both for private car and jeepney * Strengthening of premium bus service * Usage of jeepney as a feeder to cover a wider peripheral area			* Conversion of jeepney to bus on multi-lane roads * Effective use of sidestreets * Use of jeepney in peripheral area to widen public transportation coverage				
* Priority Mode by Road	* España – Bus * Quezon Ave. – Bus * Roosevelt – jeepney (bus in connection with España) * D.M. Marcos – bus * Other streets – jeepney			* R-10 – private car and bus * Rizal/Rizal Ave. Ext. – LRT * J.A. Santos – private car * J. Luna/A. Mabini/H. Lopez – jeepney * A. Bonifacio/Dimasalang – bus * McArthur Highway – bus * Gen. Luna/M. H. del Pilar – jeepney * Quirino Highway – bus * North Div. Rd. – private car and bus * Other sidestreets – jeepney				
* Remarks	* In the peripheral area, construction of new roads such as Visayas AVe. is required as soon as possible.			* In the peripheral area, construction of new roads is urgent. R-10 Extension and Mindanao Ave. will relieve this area.				

Note: 1/ Figures in parentheses show the estimates considering the LRT Line No. 1.

Cont'd.

	Eastern Corridor				
	C-2	C-4 South	C-4 North	Peripheral South	Peripheral North
* 1980 Volume/ Capacity Ratio	1.1	1.2	1.2	0.8	1.1
* 1980 Jpy/Bus Share in Total P.C.U. Traffic	0.60	0.24	0.50	0.19	0.67
* 1990 Volume/ Capacity Ratio on 1990 Road Network					
– All Jpy Assump.	2.5	0.9	1.3	1.5	1.2
– All Bus Assump.	1.6	0.7	1.0	1.0	0.8
– All Jpy Assump. (w/sidestreets)	1.7	0.7	0.8	1.5	1.2
– All Bus Assump. (w/sidestreets)	1.1	0.5	0.6	1.0	0.8
* Direction for Rerouting	* Shift from LOV to HOV on primary roads * Greater use of sidestreets * Introduction of jeepney to the peripheral area as a feeder				
* Priority Mode by Road	* Ortigas Ave. – private car and bus * Shaw Blvd. – bus * Boni Ave. – jeepney * Legarda/R. Magsaysay – bus * E. Rodriguez – bus * Aurora Blvd. – bus * Kamuning/Kamias, Santolan Road and other sidestreets – jeepney				
* Remarks	* Even after implementation of the above countermeasures, traffic congestion may persist on Legarda, R. Magsaysay, Ortigas, Shaw Blvd. and Aurora Blvd. For Ortigas Avenue, widening of the carriageway from 4 to 6 lanes by reducing the median is recommended coupled with intersection improve at EDSA/ Ortigas. For R. Magsaysay and Aurora Blvd., the feasibility of an LRT line should be explored.				

Cont'd.

	C-2/C-3 Corridor				
	South	South East	East	North East	North
* 1980 Volume/ Capacity Ratio	0.9	1.1	1.4	0.9	0.7
* 1980 Jpy/Bus Share in Total P.C.U. Traffic	0.14	0.24	0.25	0.32	0.20
* 1990 Volume/ Capacity Ratio on 1990 Road Network					
— All Jpy Assump.	1.6	1.6	2.2	1.6	1.1
— All Bus Assump.	1.3	1.2	1.7	1.2	0.8
— All Jpy Assump. (w/sidestreets)	1.4	1.6	2.2	0.9	0.9
— All Bus Assump. (w/side streets)	1.2	1.2	1.7	0.7	0.7
* Direction for Rerouting	* Priority to bus on multi-lane roads (especially in the east and the south) * Maximum use of sidestreets and secondary roads * Better connection EDSA * Introduction of premium bus service (especially in the south)				
* Priority Mode by Road	* C-3 — bus and private car * C-2 — bus and private car * Del Monte/E. Rodriguez/Shaw Blvd. — bus * Makati — Mandaluyong Road — bus * Roces — private car and jeepney * Ortigas/Buendia/V. Cruz — private car and bus * Mayon/New Panaderos/Pasay Road and other sidestreets — jeepney				
* Remarks	* Even after implementation of the above proposals, it is not considered enough to cope with the overwhelming demand. The planned extension of C-3 up to Makati and the R-4 construction inside EDSA are considered indispensable to alleviate this situation.				

Cont'd.

	C-4 Corridor				
	South	South East	East	North East	North
* 1980 Volume/ Capacity Ratio	0.9	1.0	1.2	0.9	0.8
* 1980 Jpy/Bus Share in Total P.C.U. Traffic	0.28	0.23	0.37	0.33	0.37
* 1990 Volume/ Capacity Ratio on 1990 road Network					
– All Jpy Assump.	1.2	1.3	0.9	1.4	0.8
– All Bus Assump.	0.9	1.0	0.9	1.0	0.7
– All Jpy Assump. (w/sidestreets)	1.2	1.3	0.7	0.8	0.8
– (All Bus Assump. (w/sidestreets)	0.9	1.0	0.5	0.6	0.7
* Direction for Rerouting	* Basically as is (priority to bus on EDSA) * Expansion of jeepney/bus coverage in the north				
* Priority Mode by Road	* EDSA – bus and private car * T. Sora – private car and jeepney * E. Rodriguez and other sidestreets				
* Remarks	* For the expected congestion of the southeastern part of EDSA, the planned extension of C-3 up to Makati will be effective.				

Cont'd.

	Metro Manila Periphery				
	South	South East	East	North East	North
* 1980 Volume/ Capacity Radio[1/]	1.7	1.4	1.5	0.6	0.3
* 1980 Jpy/Bus Share in Total P.C.U. Traffic[1/]	0.07	0.16	0.15	0.32	0.19
* 1990 Volume/ Capacity Ratio of 1190 Road Network					
– All Jpy Assump.	0.3	0.6	1.3	0.3	0.2
– All Bus Assump.	0.2	0.3	0,9	0.2	0.2
– All Jpy Assump. (w/sidestreets)	0.2	0.6	0.8	0.1	0.2
– (All Bus Assump. (w/sidestreets)	0.1	0.3	0.5	0.1	0.2
* Direction for Rerouting	* Expansion of jeepney/bus service coverage * Effective use of sidestreets in the east				
* Priority Mode by Road	* Geronomo/Katipunan/E.A. Rodriguez/Bambang Bridge/Pres. M.L. Quezon and other secondary roads and sidestreets — jeepney				
* Remarks					

Note: 1/ In the absence of traffic count data, traffic assignment results are indicated.

Appendix 5.2
Desired Structure of PUV Routes in New Roads

Constructed	Major OD Pairs to be Serviced by the New Road	Approximate Distance (kms.)	Representative Existing Routes Corresponding to the OD Pair (existing as of 1983)
C-3 (R-10 – Aurora Blvd.)	* CBD – Novaliches/Lagro and further North (via Rizal Avenue and C-3)	* 15 or more	* Jeepney: Blumentritt-Novaliches Ord. Bus: Sapang Palay – Sta. Cruz Mini Bus: Divisoria – Bulacan
	* Monumento – Retiro/Del Monte (via Rizal Ave. Extension and C-3)	* 3 – 4	* None
	* CBD – Balintawak/Muñoz (via Rizal Ave. and C-3)	* 7 – 10	* Jeepney: Project 8 – Quiapo
	* España – Makati (via E. Rodriguez, C-3, Shaw Blvd. and Makati-Mandaluyong Road)	* 8 – 10	* None
	* CBD – Malabon (via R-10, C-3 and H. Lopez)	* 15 or more	* Jeepney: Divisoria – Gasak
	* Tayuman – Navotas (via R-10, C-3 and H. Lopez)	* 4 – 6	* None
R-10 (Del Pan Bridge – C-4)	* CBD – Navotas (via Del Bridge and R-10)	* 5 – 7	* Jeepney: Navotas – Recto
	* Tayuman – Navotas (via R-10, C-3 and H. Lopez)	* 4 – 6	* None
	* CBD – Malabon (via R-10, C-3 and H. Lopez)	* 15 or more	* Jeepney: Divisoria – Gasak
Makati-Mandaluyong Road (Shaw Blvd. – J.P.)	* San Juan – Las Piñas/ Paranaque (via Shaw Blvd., Makati-Mandaluyong Road, Makati Avenue and EDSA)	* 15 or more	* None
	* Boni – Sta. Ana/Buendia (via Boni, Makati-Mandaluyong Road and J.P. Rizal/ P. Tamo)	* 4 – 5	* None
R-1 Extension	* Cavite/Zapote – Baclaran	* 15	* Jeepney: Baclaran – Zapote Minibus: Baclaran – Cavite
	* Cavite/Zapote – CBD	* 20 or more	* Minibus: Lawton – Cavite

Appendix 7.1

Seminar 10

Understanding Microcomputer

Date : 8 September 1984
Time : 9:00 a.m. – 5:00 p.m.
Place : U.P. TTC Audio-visual Room
Rationale : Designed for the professionals without any prior background in microcomputers nor programming, this first seminar aims to provide full understanding of the technology. After the seminar, participants should be able to appreciate the uses and limitations and micros in transportation, learn the terminologies, and take the next steps toward using them as tools. This seminar is a prerequisite to all subsequent sessions.

Morning Session : MICROCOMPUTER FUNDAMENTALS

		Resource Persons
9:00 – 9:15	Introduction to the Seminar	S. Iwata
9:15 – 10:30	What is a Micro? Components and Architecture Hardware, Software	H. A. Felias, Jr.
10:30 – 10:45	Coffee Break	
10:45 – 12:15	Operating Systems and Languages	M.A. Alcuaz, Jr.
11:15 – 12:15	General Purpose Software	M.A. Alcuaz, Jr.
12:15 – 1:30	Lunch Break	
Afternoon Session:	APPLICATIONS OVERVIEW	
1:30 – 2:00	Applications in Transportation	R.S. Santiago
2:00 – 3:30	Laboratory Work/Demonstration (Fujitsu 8, NEC, Apple IIs, HPs)	H.A. Felias, Jr.
3:30 – 3:45	Coffee Break	
3:45 – 4:30	Technology Trends	M.A. Alcuaz, Jr.
4:30 – 5:00	Organizational Response to the Micro Revolution	

Appendix 7.2
Seminar 20
Spreadsheet Applications

Date : 29 September 1984
Time : 9:00 a.m. – 5:00 p.m.
Place : U.P. TTC Microcomputer Room
Rationale : This course is designed for participants to gain a working familiarity with one one of the simplest but important planning tools for most managers and professionals – the electronic spreadsheet. Even without prior programming experience, the user can use this productivity or general-purpose software for financial projections, traffic capacity planning, bus scheduling, economic evaluation, etc.

Because of availability and ease-of-use, the SUPERCALC software will be taught through a combination of lectures, hands-outs and simple problem exercises.

Morning Session :		Resource Persons
9:00 – 10:30	Spreadsheet Fundementals Table Formats of Rows/Columns SUPERCALC's Structure and Display	H.A. Felias, Jr.
10:30 – 10:45	Coffee Break	
10:45 – 11:15	Simple Commands, Formulas	J.F. Mortero
11:15 – 12:15	Hands-on Exercise I	
12:15 – 1:30	Lunch Break	
Afternoon Session:		
1:30 – 2:00	Discussions of Exercise I	
2:00 – 2:30	Other Commands in SUPERCALC	
2:30 – 3:30	Applications in Transportation	J.F. Mortero
3:30 – 3:45	Coffee Break	
3:45 – 4:15	Dicussions	
4:15 – 5:00	Evolution of Spreadsheets and Summary of Course	R.S. Santiago

Appendix 7.3

Seminar 30
An Introduction to
Basic Programming on a Micro

Date : 17 November 1984
Time : 9:00 a.m. – 4:30 p.m.
Place : U.P. TTC Microcomputer Room
Rationale : This is the fourth in a series of seminars and tutorials sponsored by JUMSUT II for MOTC and other government planning staff. It assumes a basic understanding fundamentals and concepts. Designed for the non-EDP persons, it aims to introduce participants to one of the simplest and most popular computer languages called BASIC. At the end of the day, participants should be able to create programs to solve their own problems, run and understand the logic of other programs and softwares using BASIC (e.g., the SECODABAS, JERIMAS and NEAP application softwares developed in JUMSUT I). It is not meant to produce instant expert programmers, although such a result could not be discounted.

Morning Session: Resource Persons

1. Overview of the Programming Process — L. Sunico
2. Fundamental Concepts of the BASIC Language
   - 2.1 BASIC as an Interactive Language
   - 2.2 Symbols Used in the Language
   - 2.3 Data Representation in BASIC

   BASIC Editor Commands
   Input/Output Commands
   Arithmetic Statements
   Program Flow Control Statements

3. BASIC Variables and Arithmetic Expressions
4. LET, PRINT and REM Statements
5. INPUT Statement
6. Relational and Logical Expressions
7. GO TO and IF-THEN-ELSE Statements
8. READ, DATA, and RESTORE Statements
9. Graphic Commands

Afternoon Session:

1. Hands-on Workshop

Appendix 7.4
Seminar 40
Project Management

Date : 16 February 1985
Time : 9:00 a.m. – 5:00 p.m.
Place : 5th Floor, Davao Room, MOTC
Rationale : The course seeks to develop among participants an appreciation of the value of microcomputers in project management. An introduction to the use of an available software called Harvard Project Manager (HPM), will be made after a review of project management concepts, tools of scheduling and control.

		Resource Persons
Morning Session:		
9:00 – 10:30	Fundamentals of Project Management Review of PERT/CPM Evolution of Computer Applications Overview of MacProject	R.S. Santiago
10:30 – 10:45	Coffee Break	
10:45 – 11:15	Structure of the HPM Functions and Commands Building the project roadmap	
11:15 – 12:00	DEMO I (Hands-on)	R.V. Gonzales
12:00 – 1:30	Lunch Break	
Afternoon Session:		
1:30 – 2:00	Revising the Roadmap Calendar	
2:00 – 3:00	DEMO II (Hands-on)	M.F. Alejandro
3:00 – 3:30	Scheduling and Tracking Printing	
3:00 – 3:45	Coffee Break	
3:45 – 4:30	DEMO II (Hands-on)	J.S. Ticatic
4:30 – 5:00	Summary	R.S. Santiago