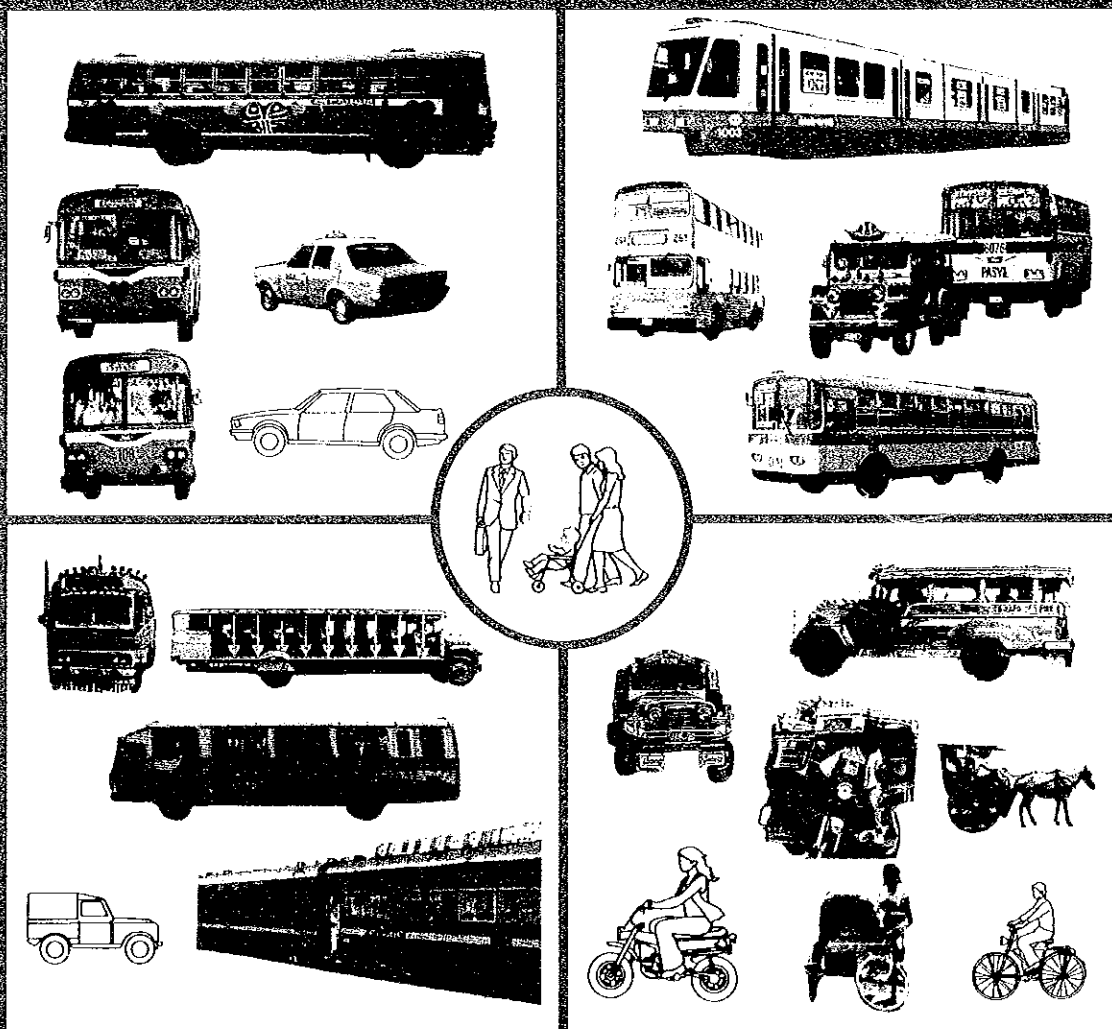


THE METRO MANILA TRANSPORTATION PLANNING STUDY (JUMSUT)

FINAL REPORT

SUPPORTING DOCUMENTS/MANUALS

No. 2 : Public Transportation Survey Manual



March 1984

JAPAN INTERNATIONAL COOPERATION AGENCY

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国際協力事業団	
受入 月日 '84. 5. 28	118
登録No. 10338	71
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SUPPORTING DOCUMENT NO. 2

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1	Objective.....	1
1.2	Coverage.....	1
2.	PUBLIC TRANSPORTATION SURVEYS.....	1
2.1	Route Reconnaissance Survey.....	1
2.1.1	General.....	1
2.1.2	Selection of Survey Points/Stations.....	1
2.1.3	Survey Team Organization.....	2
2.1.4	Survey Method.....	2
2.1.5	Survey Materials.....	2
2.1.6	Compilation of Data.....	2
2.2	Service Frequency Count Survey.....	3
2.2.1	General.....	3
2.2.2	Selection of Survey Points/Stations.....	3
2.2.3	Survey Team Organization.....	3
2.2.4	Survey Method.....	4
2.2.5	Survey Materials.....	5
2.2.6	Compilation of Data.....	5
2.3	On-Board Survey on Operation and Passenger Demand Characteristics.....	6
2.3.1	General.....	6
2.3.2	Selection of Survey Points/Stations.....	6
2.3.3	Survey Team Organization.....	6
2.3.4	Survey Method.....	6
2.3.5	Survey Materials.....	8
2.3.6	Compilation of Data.....	8
2.4	Public Transport Terminal Survey.....	9
2.4.1	General.....	9
2.4.2	Survey Implementation.....	9
2.5	Passenger Interview Survey.....	10
2.5.1	General.....	10
2.5.2	Survey Implementation.....	10
2.6	Driver Interview Survey.....	11
2.6.1	General.....	11
2.6.2	Survey Implementation.....	11
2.7	Operator Interview Survey.....	11
2.7.1	General.....	11
2.7.2	Survey Implementation.....	11

APPENDICES

1. INTRODUCTION

1.1 OBJECTIVE

- This manual describes, in general, the methodology of field surveys and data compilation in relation to public transportation. However, the local conditions of Metro Manila were taken into account, as much as possible, based on the results of various JUMSUT public transport surveys.

1.2 COVERAGE

- This manual covers the following surveys:
 - a) Route Reconnaissance Survey
 - b) Service Frequency Count Survey
 - c) On-Board Survey on Operation and Passenger Demand Characteristics
 - d) Public Transport Terminal Survey
 - e) Passenger Interview Survey
 - f) Driver Interview Survey
 - g) Operator Interview Survey
- Although there are a variety of surveys other than those mentioned, it becomes much easier to design and conduct other surveys once these basic surveys are completed. This is because they cover most, if not all, of the aspects required for public transport planning.

2. PUBLIC TRANSPORTATION SURVEYS

2.1 ROUTE RECONNAISSANCE SURVEY

2.1.1 General

- The objective of this survey is to obtain a list of public transport routes actually operating in the field.
- This survey can be omitted if reliable route lists are already available. However, it is advisable to carry out this survey (even when lists are available) in the following cases:
 - a) when a major change in route configuration or terminal facility is foreseen
 - b) when detailed data are required for specific areas (design of terminal facility, rerouting plan, etc.)
- This survey can be conducted with relatively limited manpower and resources in a number of areas. However, due to its nature, the data obtained are not necessarily accurate. They must be refined by subsequent surveys.

2.1.2 Selection of Survey Points/Stations

- Survey points are usually selected at terminal areas where public transport vehicles congregate. The slow turning movements at these points make it easy to read the route names. This also facilitates subsequent surveys on terminals, if any.
- If this survey is conducted only to obtain route names, there are road sections better than any terminal for this purpose. The three bridges crossing Pasig river in downtown Manila, i.e., Jones, McArthur and Quezon bridges, are good examples. In this case, however, survey points must be selected at intersections equipped with signals where vehicle speed is low, so that route names can be read easily.

- Since this survey is carried out in the daytime in a relatively short period of time, lack of shelter or street lighting will not be a problem.

2.1.3 Survey Team Organization

- The survey team is usually composed of a leader and two to four surveyors. The team leader must be a permanent staff member of the project in order to ensure the smooth conduct and the quality of survey results. His other important duties include monitoring the progress of the survey and readjusting the survey schedule.
- It is most important that the survey team be provided with a means of transportation so that the team leader can move quickly from one survey station to another, depending on the local situation.
- The number of survey teams should be increased when a comprehensive survey will be done in a short period of time.

2.1.4 Survey Method

- On arriving at the survey station, the team leader assigns one survey point to each surveyor. The surveyor records all the panel route names of public transport vehicles passing by in front of him. The field sheet of this survey is shown in Appendix 1. The panel route names must be clearly recorded including the "vias", because similar names of different routes are often observed in Metro Manila. After recording all the names (which usually takes 5-10 minutes, excluding minor routes) the surveyor then, writes down the starting time of the traffic count. The traffic count is conducted for 15 minutes, using the tally method. When the count of the total frequency of a route reaches 10, the surveyor can stop counting after recording the end time.
- If a new route is found during the survey, the surveyor must record the panel route name in the same manner. However, the traffic count for the new routes may not be conducted if the service frequency is apparently low.
- The team leader sees to it that no duplication of surveyors' work occurs. If he notices that the number of surveyors assigned is more than the number of routes to be counted, he reallocates the surveyors. He must be careful about missing any routes or misreading route names when monitoring the progress of the survey.

2.1.5 Survey Materials

- The materials necessary for this survey are as follows:
 - a) Vehicle (per team)
 - b) Clipboard (per person)
 - c) Pencil (per person)
 - d) Wrist watch (per person)
 - e) Field Sheet (20 per day per person)

2.1.6 Compilation of Data

- In general, the data obtained in this survey do not require a sizeable amount of compilation task due to the following reasons:
 - a) The volume of data obtained in this survey is not large
 - b) The data need further refinement including addition, calculation and modification.

- However, the route list must be elaborated based on the survey results together with the frequency level. Although this has to be done manually, special attention must be given on the following points:

- a) Segregation of routes by "via"
- b) Aggregation of the same routes of different panel route names

Since the route list obtained in this survey is the starting point of public transport planning, the above aspects must be made clear as criteria to define the concept of a "route".

- In elaborating the route list, a system must be adopted to avoid confusion like assigning a specific number to each route or arranging them in alphabetical order.

2.2 SERVICE FREQUENCY COUNT SURVEY

2.2.1 General

- In this survey, the service frequency of public transport vehicles by route is counted. The results are useful by themselves. However, they can also serve as a basis of expansion for other sample-based data.
- Since this survey is one of the most basic public transport surveys, it usually covers all existing public transport routes. If carried out by hour and by direction, the results will become more useful.
- However, if the number of routes is numerous, it is recommended that a control count survey be conducted, in addition to the usual terminal count survey in order to avoid confusion in compiling data and to increase accuracy.

2.2.2 Selection of Survey Points/Stations

- For the usual service frequency survey, it would be effective to set up survey stations near terminals/turning points where a number of routes congregate. However, there are cases when it is considered better to put survey stations at a place apart from terminals/turning points. This is when the queues of public transport vehicles are scattered in a terminal area or when frequent trip cutting is expected to occur.
- For the control count survey, the survey stations are usually selected at the roadside of major thoroughfares where public transport routes are concentrated.
- For the frequency count surveys mentioned above, survey stations must be chosen considering the following aspects:
 - Vehicle speed : which should be low so that surveyors can identify the routes easily.
 - Shelter : which must be provided nearby to accommodate surveyors in case it rains (if none, raincoats should be prepared).
 - Street lighting : which is important in order that surveyors may read route names in the evening (if none, handy flashlights must be provided for).

2.2.3 Survey Team Organization

- Although there are several methods of organizing survey teams, the following major points must be taken into account:

- a) In order to avoid confusion due to lack of control, the number of surveyors per supervisor should not exceed a certain number; preferably up to 10 only.
 - b) Since unexpected situations often occur during the survey, such as the discovery of new routes and the large service frequency of some routes, one or two surveyors must be assigned as relievers to fill any gaps during the survey according to the supervisor's instructions.
- Depending on the survey scale and availability of time, the number of teams needed for the survey should be determined. Assuming a 16-hour frequency count survey for all the routes on a two-shift basis, the number of survey teams can be calculated as follows:

$$\begin{array}{l} \text{Required} \\ \text{Man-days} \end{array} = \begin{array}{l} \text{No. of Routes} \\ \text{to be counted} \end{array} \times A$$

$$\begin{array}{l} \text{where } A = 1.0 \text{ (without Control Count)} \\ \quad = 1.5 \text{ (with Control Count)} \end{array}$$

$$\begin{array}{l} \text{No. of Survey} \\ \text{Teams Required} \end{array} = \frac{\text{Required Man-days}}{\begin{array}{l} \text{Scheduled} \\ \text{Survey} \\ \text{Duration} \end{array} \times \begin{array}{l} \text{No. of Surveyors} \\ \text{and Supervisors} \\ \text{per Team} \end{array}}$$

- In addition to the surveyors and supervisors, one of the project staff members must be assigned to the survey to monitor the progress and to ensure the flexible readjustment of the survey schedule.

2.2.4 Survey Method

- Prior to the survey, the route names must already be written on the field sheets; some examples are shown in Appendices 2, 3 and 4. This may be done beforehand in the office or written by the supervisor in the field. The most important thing is to cover all the routes allocated to the survey team on the specific day with a limited manpower. Therefore, the survey schedule must be reasonably prepared based on the available information, such as the results of the route reconnaissance survey. Normally, one surveyor is not assigned to count more than four routes at a time, even if the anticipated service frequency is low. In the case of Metro Manila's jeepney routes, the average number of routes covered by one surveyor is usually two.
- After meeting at a pre-arranged place 15-30 minutes before the starting time, the supervisor sends each surveyor to the survey point with the field sheets. The supervisor has to make it clear to the surveyors that they have to station themselves at their assigned point until the second-shift surveyors arrive.
- The surveyor starts counting the one-way service frequency of the allocated routes by tally method. At a definite starting time, if the frequency is extremely large, a manual counter will be provided. The surveyor records the total frequency by route every hour.
- Meanwhile, the supervisor, after allocating the surveyors, has to go around the survey points to check whether the survey is being conducted properly and whether there is any problem. If some problem is observed or foreseen, he has to take up some counter-measures. For instance, if he notices a survey point to be too busy, he has to send relievers to help out, or if there is a need for more field sheets a reliever has to go to the office to get some more.

- On the other hand, a survey chief, who is a permanent project staff member, goes to the different survey stations for on-the-spot inspections of supervisors and surveyors. He has to bring a certain number of blank field sheets and other necessary materials, including manual counters and flashlights, so that he can give it to the survey team upon request. The necessary accounting jobs, such as payment to surveyors and collection of receipts, will be done during this time.
- When the second-shift surveyors come, the supervisor will, likewise, assign each surveyor to a specific survey point. Just like the first-shift surveyors, the supervisor has to inform the second-shift surveyors about their schedule for the next day before they leave. This is done so that the surveyors may directly go to the exact points assigned to them. After the survey ends, the supervisor collects the accomplished field sheets and keeps them until the survey chief comes to see him the next day.
- In general, the supervisors are expected to work 16 hours continuously to ensure the smooth conduct of the survey. However, it is also possible for the supervisors to adopt a shifting system. In addition, a dry-run is recommended to facilitate the conduct of the survey.

2.2.5 Survey Materials

- The necessary materials needed for this survey are as follows:
 - a) Vehicles (One for the survey chief and one per three survey teams; however, this depends on the survey area and the public transport situation).
 - b) Clipboard (per person)
 - c) Pencil/Ballpen (per person)
 - d) Wrist watch (per person)
 - e) Field Sheets (prepared sheets and additional sheets)
 - f) Manual Counters (depends on the routes; usually 2-3 per team)
 - g) Flashlights (depends on the location of survey points)
 - h) Raincoats (depends on the location of survey points and the season).

2.2.6 Compilation of Data

- The data obtained are usually compiled using the following format:

No.	Route Name	Direction	Hourly Frequency			Total
			6	7	8	
1	Alabang – P. Rtda.	↔	6	7	8	21
		Total	7	8	9	22
2	Alabang – Libertad	↔				
		Total				

- Actual examples of this form are shown in Appendices 5 and 6. Although the final compilation format is as shown above, there are cases when the same route is counted at

various points. In such a case, it is important to determine which data best reflect the actual operation. If there is no large difference among the data gathered, the maximum figures may be taken. However, if there is a large discrepancy, a re-survey should be conducted, unless the reason for this is clearly identified (e.g., trip cutting near the terminal).

2.3 ON-BOARD SURVEY ON OPERATION AND PASSENGER DEMAND CHARACTERISTICS

2.3.1 General

- The objective of the operation characteristics survey is to investigate travel time, turn-around time and occupancy of bus/jeepney routes. From the turn-around time thus surveyed, the number of operating units by route could be estimated.
- As it is impossible to survey all vehicle movements, this survey will be conducted inevitably on a sampling basis. The results will be expanded later based on the results of the frequency count survey aforementioned.
- The survey will produce a sizeable amount of detailed information on public transport operation and passenger demand characteristics. However, the level, accuracy and reference value will depend on the survey framework, such as road network, road section determination, zoning and EDP methodology. If the framework is not well planned, the usefulness of the data obtained will be buried in the confusion of processing various kinds of approximated data. Consequently, the survey framework, including survey schedule, manpower requirements, budget allocation, sampling, survey team organization, survey method and EDP methodology, must be elaborated beforehand.

2.3.2 Selection of Survey Points/Stations

- For this survey, the selection of survey points/stations is not essential because this is an on-board survey covering an entire route. The most important aspect is how the surveyors can go on-board and come back to the starting point.
- However, in order to increase the efficiency of the survey, the survey points/stations must be selected in large terminal areas, where a number of routes are concentrated and where supervisors can control the large number of surveyors involved in a relatively flexible manner.

2.3.3 Survey Team Organization

- The method of organizing the survey teams is generally the same as that of the service frequency count survey. An aspect peculiar to this survey, however, is that the number of surveyors per route should be changed according to the number of sample trips required and the route length. The time necessary for one round trip may be calculated assuming a travel speed of 10 kph and 15 kph for jeepney and bus in Metro Manila, respectively.

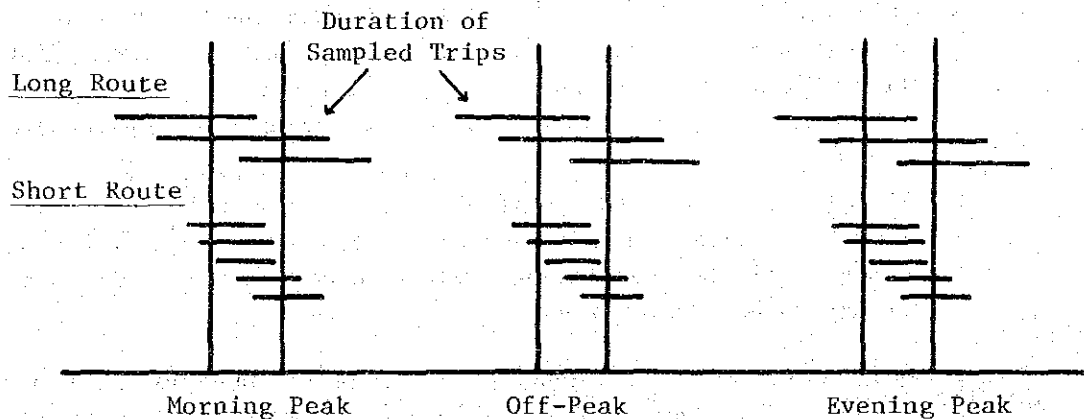
2.3.4 Survey Method

- Sampling is done according to the following steps:
 - 1) Selection/Sampling of Routes to be surveyed
 - 2) Determination of Number of Sample Trips per RouteThe first may be skipped if all routes are to be surveyed.

- The selection/sampling of routes are done using the following criteria:
 - 1) Whether the route can be covered by other similar routes of a larger frequency
 - 2) Relative importance of the route in relation to the survey objectives
 - 3) Magnitude of the service frequency

Notwithstanding the above criteria, it is desirable to increase the number of routes within the limitation of available resources.

- The number of sampled trips will be determined based on the following criteria:
 - 1) Hour/time period to be surveyed: whether there is a need to determine the specific time period or not
 - 2) Relative importance of the route in the light of the survey objectives
 - 3) Magnitude of service frequency
- Usually this survey is conducted for specific time periods of the day. For instance, morning peak hour, evening peak hour and off-peak hours are usually selected considering the subsequent data expansion.
- The survey time period is conceptually understood as shown below:



- In general, the same kind of attention is given for this survey as in other surveys. However, due to the nature of on-board surveys (surveyors travelling around), the management and monitoring responsibilities will be more difficult than other surveys. It is important for surveyors to always report, after each round trip, at the same place where the supervisor stations himself.
- The examples of the field sheets used in this survey are shown in Appendices 7 and 8.
- After routes are allocated to each surveyor, he goes on-board a vehicle of a pre-determined route at a terminal and rides on it throughout the route. He records the loading/unloading of passengers continuously until he comes back to the terminal where he started. If he is forced to alight at the destination terminal/turning point, he has to follow the vehicle while it is turning and board the same vehicle again for the return trip. Likewise, he has to follow the same vehicle at the origin terminal until he comes back to his starting point.
- Supervisors assigned at terminals during the survey have to see to it that there is enough manpower to cover all necessary routes. He either sends relievers or assigns surveyors from one route to another to fill any gaps.

- In addition, it is worth noting that the supervisors/surveyors assigned to this survey should have detailed background information of the area surveyed, such as name of roads/streets, name of major buildings/shops and name of barrios/barangays. This is important to record the "LOCATION OF STOP" on the field sheet.

2.3.5 Survey Materials

- The materials necessary to conduct this survey are:
 - a) Vehicles (One for the survey chief and one per three survey teams; however, this depends on the survey area and the situation of public transport.)
 - b) Clipboard (per person)
 - c) Pencil/Ballpen (per person)
 - d) Wrist watch (per person)
 - e) Field Sheets (prepared sheets and additional sheets)

Also, the fare necessary for the survey must be given to the surveyors beforehand.

2.3.6 Compilation of Data

- Examples of data compilation forms are presented in Appendices 9 and 10.
- "LOCATION OF STOP" is coded using the predetermined road section numbers. A map showing the numbers must be elaborated prior to the actual survey. This map determines the level/accuracy of the output, as well as the amount of coding/EDP work. Therefore, careful attention is given to the interrelation of the survey level/objective and the available resources.
- Although the "LOCATION OF STOP" recorded on the field sheets is usually discrete, it should be coded continuously following the section numbers, even if no passenger boarding/alighting is observed. The same section number may appear twice or more if passenger loading/unloading occurs as well.
- If the routes of a public transport vehicle are not stable nor fixed, like Metro Manila jeepneys, the standard routes should be coded in terms of section numbers, in addition to the coding of the "LOCATION OF STOPS". This is done to facilitate comparison between samples, as well as to presume a normal situation without any route deviation.
- "TIME ARRIVED AND DEPARTED" is coded as recorded on the field sheets. Military time is recommended for coding. If detailed information on public transport vehicle operation is needed, the time may be recorded in terms of seconds. For sections where no passenger loading/unloading is recorded, columns are left blank.
- "NUMBER OF PASSENGERS BOARDING AND ON BOARD" is coded similarly. Number of alighting passengers can be calculated later using these data.
- As the survey is conducted on a sampling basis, the methodology for data expansion must be established carefully. The following examples have been adopted in JUMSUT:
 - 1) Data compilation of samples, which involves:
 - a) calculating the number of alighting passengers by section (not surveyed)
 - b) allocating frequency data to the sample data by section (route frequency was divided in proportion to the number of samples if the section passed was different among samples that belong to the same route and the same time period)

- 2) Estimate of information of routes that were not surveyed, which involves:
 - a) calculating the route length based on the "Standard Route Configuration" separately coded
 - b) estimating terminal time and travel time by time period (terminal time was obtained as an average, while travel time was calculated using the route length and the average travel time and route length of samples of the same basic route)
 - c) estimating number of passengers boarding, alighting and on-board (in a similar manner to the method above, number of passengers boarding and on-board was calculated by section using the average of samples, and number of alighting passengers was calculated later).
- 3) Data Expansion, which involves:
 - a) calculating data by route, by section and by time period, expanding the original data by corresponding service frequency
 - b) compiling the above data by route to obtain route information
 - c) compiling the above data by section to obtain section information

2.4 PUBLIC TRANSPORT TERMINAL SURVEY

2.4.1 General

- The public transport terminal survey aims to know the characteristics of the existing public transport terminals.
- Although there are a variety of terminal surveys, the following items are usually covered:
 - a) Location
 - b) Size
 - c) Type and Size of Facility
 - d) Flow Lines of Public Transport Vehicles and Passengers
 - e) Number of Public Transport Vehicles and Passengers using the Terminal
 - f) Conditions of the Adjacent Area (Land-use, Roads, Traffic Control and Future Development Plans)
 - g) Financial/Administrative Aspects (Terminal Organization, Fees, etc.)
- For the quantitative aspects of the terminal, including the number of vehicles and passengers, other surveys, such as the on-board operation and passenger demand characteristics survey aforementioned will be useful if the data base is common and coordination is well-made. Direct counting is not necessarily needed to obtain rough figures, although it is considered to be more accurate.

2.4.2 Survey Implementation

- The survey points/stations, organization of survey points, necessary materials, survey method, compilation method and other aspects of this survey depend completely on the objectives. If the overall characteristics of existing terminals of a city are to be surveyed, a comprehensive survey with wide coverage but less depth should be conducted. However, a detailed survey with a concentration of manpower to a narrower area will be carried out, if the issue is the improvement or construction of a terminal in a specific area.

- The most important aspect of the survey is to choose an appropriate survey area for the survey items in the light of the objectives and within the limit of available resources. Any survey item can be chosen based on the above conditions, if the survey is feasible.
- Another point of the survey is that the current problems of the terminal, if any, should be clearly identified based on the survey results. Therefore, it sometimes becomes necessary to anticipate the existing problems. A reconnaissance survey is also useful for this purpose.
- In general, maps and drawings become important in this survey for compiling data. An example is shown in page 12. In addition, field sheets are often used. Examples are shown in Appendices 11, 12 and 13.

2.5 PASSENGER INTERVIEW SURVEY

2.5.1 General

- The "Passenger Interview Survey" covers a number of surveys as follows:
 - 1) By Survey Area
 - a) Cordonline
 - b) Screenline
 - c) Terminal/Turning Point
 - d) Home Interview
 - e) On-Board (Floating Method)
 - 2) By Survey Item
 - a) Passenger Characteristics
 - b) Origin/Destination (OD)
 - c) Travel Purpose
 - d) Access Mode to Specific Points
 - e) Waiting Time at Specific Points
 - f) Time/Cost of Travel

However, in order to have a clearer understanding of this type of survey, the objectives, methods and other systems adopted should be defined. A "Passenger Interview Survey" should be determined by survey area and by survey item shown above in the light of the survey objectives.

2.5.2 Survey Implementation

- Usually, passenger interview surveys which include cordonline, screenline and home interview surveys (HIS) are carried out on a large scale basis, covering a whole city or an urbanized area. For cordonline and screenline surveys, the passenger characteristics such as the address, origin/destination and travel purpose are usually selected as survey items. However, these surveys are not generally conducted independently but in conjunction with other surveys, especially the HIS. (For HIS, refer Supporting Document No. 1 for details.) An example field sheet for cordonline/screenline survey is presented in Appendix 14.
- Other passenger interview surveys at terminals or on-board can be conducted comprehensively or on a limited scale depending on the purpose. The passenger OD interview survey, for instance, is usually conducted on-board at the same time as the operation and passenger demand characteristics survey for convenience during data expansion. It gives very useful information on passenger demand for public transport, although this survey overlaps with the HIS. If the HIS is considered too time and resource-consuming, this

survey is recommended instead to obtain the characteristics of public transport passengers. An example of field sheets used in this survey is given in Appendix 15. Appendix 16 shows the field sheet of the Love Bus passenger interview survey, which was conducted on-board the Love Bus on a very limited scale.

2.6 DRIVER INTERVIEW SURVEY

2.6.1 General

- This survey may also be classified into different types depending on the coverage and survey item, which should be determined based on the objectives of the survey.
- The interview of public transport drivers is useful considering the following points:
 - a) To obtain data on the operation and financial characteristics of drivers
 - b) To obtain data on the operation and characteristics of public transport from the viewpoint of drivers.

2.6.2 Survey Implementation

- The driver interview survey is carried out on a relatively limited scale compared to other surveys. However, it may be conducted on a large scale if the purpose is to obtain an inventory or to control/regulate the operation of public transport.
- For the usual public transport planning purpose, the driver interview survey is conducted to obtain financial data on public transport operation, such as the fare revenue and the expense/cost of vehicle operation. Examples of the field sheets are shown in Appendices 17 and 18.

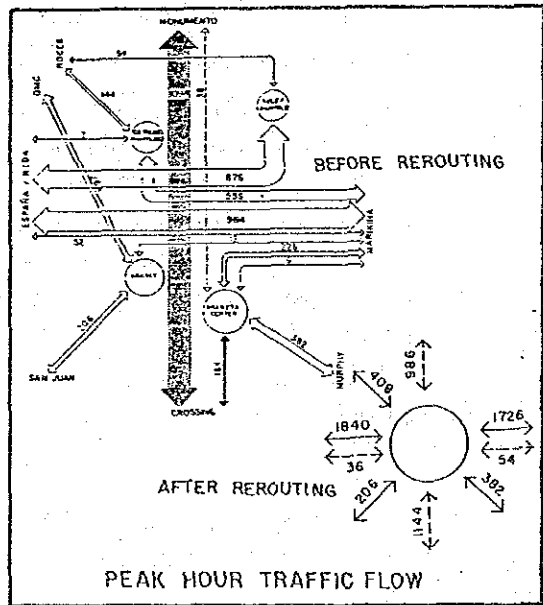
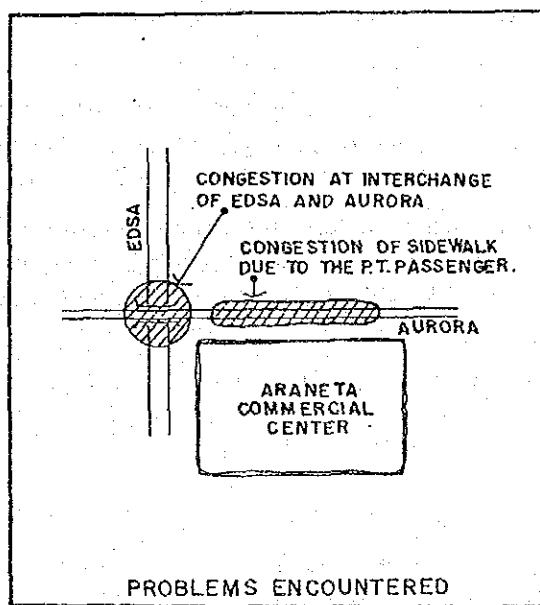
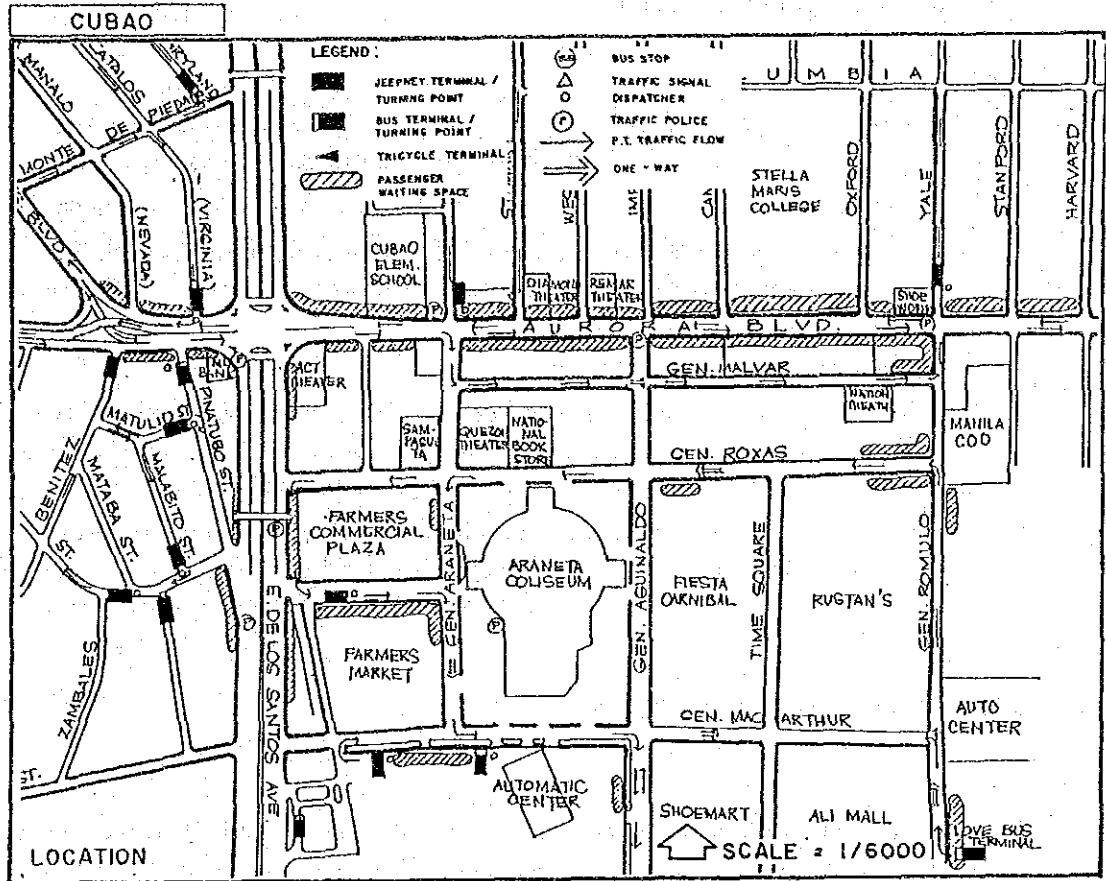
2.7 OPERATOR INTERVIEW SURVEY

2.7.1 General

- The scale, method, coverage and survey items change according to the survey objectives similar to the surveys previously discussed. However, the major purpose of this survey usually focuses on the administrative/managerial aspects of public transport.

2.7.2 Survey Implementation

- Since the data to be surveyed are generally sensitive and delicate from the viewpoint of private operators, the information obtained must be kept confidential. This fact should be emphasized to the operators.
- It is not always expected that all selected operators will respond to the interview, even if the planned coverage of the survey is comprehensive. Therefore, it is recommended that the assistance of associations/cooperatives of public transport, if any, should be solicited beforehand.
- Although there is no typical form for this survey, an example field sheet is presented in Appendix 19.



LIST OF APPENDICES

Appendix 1	Public Transport Route Reconnaissance Survey Sheet	13
Appendix 2	Jeepney Traffic Count Survey Sheet (Form 1)	14
Appendix 3	Jeepney Traffic Count Survey Sheet (Form 2)	15
Appendix 4	Bus/Mini Bus Traffic Count Survey Sheet	16
Appendix 5	Jeepney Vehicular Traffic Count Survey Master Sheet	17
Appendix 6	Bus/Mini Bus Vehicular Count Survey Master Sheet	18
Appendix 7	Jeepney Operations/Passenger Traffic Survey Sheet	19
Appendix 8	Bus/Mini Bus Operation/Passenger Traffic Survey Sheet	20
Appendix 9	Jeepney Operation/Passenger Traffic Survey Sheet	21
Appendix 10	Bus/Mini Bus Operation/Passenger Traffic Survey Sheet	22
Appendix 11	Jeepney Terminal/Turning Point Survey Sheet	23
Appendix 12	Bus Terminal Survey Sheet	24
Appendix 13	Tricycle Terminal Survey Sheet	25
Appendix 14	Public Transport Passengers OD Survey Sheet	26
Appendix 15	Bus and Jeepney Passenger OD Survey Sheet	27
Appendix 16	Love Bus Passenger Interview Survey Sheet	28
Appendix 17	Questionnaire Form for Jeepney Driver	29
Appendix 18	Jeepney Driver Interview Survey Sheet	30
Appendix 19	Bus Operator Questionnaire Survey Form	31

Appendix 2
Jeepney Traffic Count Survey Sheet
(Form 1)

SHEET NO.

STA. NAME: _____
 DATE OF SURVEY:
 SURVEYOR: 1st. shift _____
 2nd. shift _____

STA. NO:
 WEATHER: _____
 CHECKED BY: 1st. shift _____
 2nd. shift _____

	TIME	ROUTE DESCRIPTION						
		O _____	D _____	TOTAL	O _____	D _____	TOTAL	
		VIA _____	DIR. _____		VIA _____	DIR. _____		
F I R S T S H I F T	6:00 - 7:00 am							
	7:00 - 8:00 am							
	8:00 - 9:00 am							
	9:00 - 10:00 am							
	10:00 - 11:00 am							
	11:00 - 12:00 am - pm							
	12:00 - 1:00 pm							
	1:00 - 2:00 pm							
	SUB-TOTAL							
S E C O N D S H I F T	2:00 - 3:00 pm							
	3:00 - 4:00 pm							
	4:00 - 5:00 pm							
	5:00 - 6:00 pm							
	6:00 - 7:00 pm							
	7:00 - 8:00 pm							
	8:00 - 9:00 pm							
	9:00 - 10:00 pm							
	SUB-TOTAL							
TOTAL								

Appendix 3
Jeepney Traffic Count Survey Sheet
(Form 2)

STA. NAME: _____
 DATE OF SURVEY: _____
 SURVEYOR: 1st. shift
 2nd. shift

SHEET NO.
 STA. NO.
 WEATHER: _____
 CHECKED BY: 1st. shift
 2nd. shift

	TIME	ROUTE DESCRIPTION		TOTAL
		ORIGIN _____	DIRECTION _____	
F I R S T S H I F T	6:00 - 7:00 am			
	7:00 - 8:00 am			
	8:00 - 9:00 am			
	9:00 - 10:00 am			
	10:00 - 11:00 am			
	11:00 - 12:00 am pm			
	12:00 - 1:00 pm			
	1:00 - 2:00 pm			
	SUB-TOTAL			
S E C O N D S H I F T	2:00 - 3:00 pm			
	3:00 - 4:00 pm			
	4:00 - 5:00 pm			
	5:00 - 6:00 pm			
	6:00 - 7:00 pm			
	7:00 - 8:00 pm			
	8:00 - 9:00 pm			
	9:00 - 10:00 pm			
	SUB-TOTAL			
TOTAL				

Appendix 4
Bus/Mini-bus Traffic Count Survey Sheet

STA. NAME: _____ STA. NO. SHEET NO.

DATE OF SURVEY: _____ WEATHER: _____

BUS CORPORATION: _____

TYPE OF SERVICE: PLEASE CHECK APPROPRIATE BOX BELOW.

PROVINCIAL MINI BUS STD. ORDINARY LIMITED

PAG-IBIG LOVE BUS DOUBLE-DECKER

SURVEYOR: 1st shift _____ CHECKED BY: 1st shift _____
2nd shift _____ 2nd shift _____

T I M E	ROUTE DESCRIPTION		TOTAL
	ORIGIN _____ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	DESTINATION _____ <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
	VIA _____	DIRECTION _____	
F I R S T S H I F T	6:00 - 7:00 am		
	7:00 - 8:00 am		
	8:00 - 9:00 am		
	9:00 - 10:00 am		
	10:00 - 11:00 am		
	11:00 - 12:00 am		
	12:00 - 1:00 pm		
	1:00 - 2:00 pm		
	SUB - TOTAL		
S E C O N D S H I F T	2:00 - 3:00 pm		
	3:00 - 4:00 pm		
	4:00 - 5:00 pm		
	5:00 - 6:00 pm		
	6:00 - 7:00 pm		
	7:00 - 8:00 pm		
	8:00 - 9:00 pm		
	9:00 - 10:00 pm		
	SUB - TOTAL		
T O T A L			

Appendix 5
Jeepney Vehicular Traffic Count Survey Master Sheet

ROUTE NAME DIRECTION										
	ITEMS									
ROUTE CODE										
SURVEY STATION										
SURVEY DATE										
WEATHER										
HOURLY TRAFFIC VOLUME	6:00-7:00									
	7:00-8:00									
	8:00-9:00									
	9:00-10:00									
	10:00-11:00									
	11:00-12:00									
	12:00-13:00									
	13:00-14:00									
	14:00-15:00									
	15:00-16:00									
	16:00-17:00									
	17:00-18:00									
	18:00-19:00									
19:00-20:00										
20:00-21:00										
21:00-22:00										
16 HRS. TOTAL										
REMARKS										

Appendix 6
 Bus/Mini-bus Vehicular Count Survey Master Sheet

ROUTE NAME												
	DIRECTION											
ITEMS												
ROUTE CODE												
BUS COMPANY												
SERVICE TYPE												
SURVEY-DATE												
SURVEY STATION												
HOURLY TRAFFIC VOLUME	6:00-7:00											
	7:00-8:00											
	8:00-9:00											
	9:00-10:00											
	10:00-11:00											
	11:00-12:00											
	12:00-13:00											
	13:00-14:00											
	14:00-15:00											
	15:00-16:00											
	16:00-17:00											
	17:00-18:00											
	18:00-19:00											
19:00-20:00												
20:00-21:00												
21:00-22:00												
16 HRS. TOTAL												
NO. OF BUS UNITS	EACH DIRECTION											
	BOTH DIRECTION											
REMARKS												

Appendix 8
 Bus/Mini-bus Operation/Passenger Traffic Survey Sheet

SHEET NO.

--	--	--	--

STA. NAME: _____ STA. NO.

--	--	--	--	--

ROUTE NAME: _____ VIA: _____

DIRECTION: _____ SEATING CAPACITY: _____

BUS CORPORATION:

--	--	--	--

TYPE OF SERVICE: PLEASE CHECK APPROPRIATE BOX BELOW.

PROVINCIAL MINI BUS STD. ORDINARY LIMITED

PAG-IBIG LOVE BUS DOUBLE-DECKER

TIME PERIOD: PLS. CHECK: 7:00-10:00 a.m. 12:00-3:00 p.m. 4:00-7:00 p.m.

DATE OF SURVEY:

--	--	--	--	--	--

 WEATHER: _____

SURVEYOR: _____ CHECKED BY: _____

LOCATION OF STOP (PLS. INDICATE ALSO EXACT LOCATION SUCH AS POPULAR BUILDINGS, MARKETS, PARKS, ETC.)	T I M E		NO. OF PASSENGERS					
	ARRIVED	DEPARTED	BOARDING	ON BOARD				
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Appendix 11
Jeepney Terminal/Turning Point Survey Sheet

No.

Date		Name of Surveyor:					
Terminal Code		Zone Code		Terminal Name			
No. of Routes and Frequencies							
		No. of Routes		No. of Frequencies			
Terminating							
Passing Through							
Intermodal Through							
Tricycle	City Bus	Prov. Bus	Mini Bus	Intra Jpy	Inter Jpy	PNR	LRT
No. of Queueing Jeepneys				No. of Dispatchers/Traffic Policemen			
Location of Turning Point (Off/On Road)				Land Use:			
Terminal Fee				Payee of Terminal Fee			
Jeepney	Bus	Tricycle					
P/day	P/day	P/day					
Road Condition							
Traffic Condition							
Waiting/Resting Space for Jeepney and Bus							
Traffic Generating Area/Facilities							
Facilities related with Jeepney and Bus Operation							
Conditions of Terminal/Turning Point (Temporary or not)							

Appendix 13
Tricycle Terminal Survey Sheet

TRICYCLE COVERED AREA SURVEY

SHEET NO.:

Code No.	Location of Terminal (Road Name)	No. of Operating Vehicle	No. of Waiting Vehicle	Operating Period		On/Off Road	Other Mode						Terminal/ Station Name	Covered Area No (by Map)	CHARACTERISTICS			
				(From)	(To)		Prov. Bus	City Bus	Mini Bus	Prov. Jby	City Jby	PNR			LRT	Covered Area	Terminal Area	Terminal Fare

Appendix 16
Love Bus Passenger Interview Survey Sheet

Survey Date: _____ Time of Interview: _____
 Route Name: _____
 Direction: _____
 Sex: Male Female Age:
 Car Ownership: Owned by yourself Owned by your household Not owned
 Occupation: _____
 Household Income Level: _____ R /month
 Home Address: _____

Trip Information:

From	To	Mode of Transport	Access Time (mins.)	Waiting Time (mins.)	Fare (P)

Trip Purpose:

- To work To School Private
 At Work Going Home Others

Year/month you started using Love Bus: _____, 198

Mode of transport you used before Love Bus: _____

The reason you changed transport mode to Love Bus: _____

Frequency you use Love Bus: _____ times a week on average

Main purpose you use Love Bus: _____

Your comments on Love Bus: _____

	Highly Satisfactory	Relatively Satisfactory	Equally	Relatively Unsatisfactory	Extremely Unsatisfactory
Access to Stops					
Waiting Condition at Stops					
Number of Stops					
Service Frequency					
Riding Comfort					
Fare Level					
Travel Time/Speed					
Coverage of Service Area					
Hours of Service					
Transfer between other Modes					
Others (Specify: _____)					

Introduction of Air-conditioned Jeepney:

- Desirable Not Necessary
 Reality Possible Questionable

Name of Interviewer: _____ No. of Passengers

Appendix 17
Questionnaire Form for Jeepney Driver

Date:		Name of Interviewer:		Location of Interview:	
Terminal Code:		Terminal Name:		Terminal Type:	
Seq. No.					
Item					
A G E					
Driving Experience (yrs.)					
Jeepney Operator					
Do you drive same route every day or not					
Passenger's Time	Waiting	Peak Hour	From		
			To		
			Waiting Time		
	Off Peak Hour		From		
			To		
			Waiting Time		
Do you have any comments about this terminal?					
Do you have any idea how this place became a Terminal?					
Incidental Expenses	Payee				
	Amount				
	Payee				
	Amount				
	Payee				
	Amount				
	Amount				
Driver's Income					

Appendix 18
Jeepney Driver Interview Survey Sheet

ROUTE NAME	DATE OF INTERVIEW	PLACE OF INTERVIEW	NAME OF INTERVIEWER	NAME OF SUPERVISOR							
ITEM	1	2	3	4	5	6	7	8	9	10	AVE.
NO. OF ROUND TRIPS / DAY											
WORKING HOURS / DAY											
NO. OF WORKING DAYS / WEEK											
NO. OF DRIVERS ASSIGNED TO THIS VEHICLE.											
NO. OF OPERATING DAYS OF THIS VEHICLE FOR THE LAST ONE WEEK.											
AVE. TOTAL FAIR REVENUE / DAY											
• WEEKDAYS											
• HOLIDAYS											
AVE. EXPENSES / DAY											
• BOUNDARY											
• FUEL & OIL											
•											
•											
•											
•											
•											
NET INCOME PER DAY											
HOW LONG HAVE YOU BEEN DRIVING JEEPNEY ?											
HOW LONG HAVE YOU BEEN DRIVING THIS ROUTE ?											
AGE :											
PLATE NO. :											
TYPE / SEATING CAPACITY :											

Appendix 19
Bus Operators Questionnaire Survey Form

I GENERAL

Bus Company/Operator Name _____ Date _____
 Head Office Address _____ Established _____
 Consortium _____

II BUILDINGS AND FACILITIES

Please give the buildings and facilities found in the location(s) where the company operates. Examples of such facilities are: administrative office, repairs and maintenance workshop, repairs and maintenance stall, parking area, route terminal, and parts stock room.

	Owner-ship*	Approximate Area (Sq.m.)	
		Land Area	Floor Area
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

* Owned, leased, rented, etc.

III FLEET

A. Inventory (Date _____)

Make and Model	Seating Capacity	Number of Units						
		By Engine		By Age in Years				
		Repo- wered	Ori- ginal	(original units only)				
		0-2	2.1-4	4.1-6	6.1-8	8.1-10	10+	
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
Total Number of Units		_____	_____	_____	_____	_____	_____	_____

(Appendix 19 cont.'d.)

B. Condition (Date _____)

Make and Model	Number of Units						
	Running	Operational				Nonoperational	
		Under Minor Repair	Awaiting Minor Repair	Under Major Repair	Awaiting Major Repair	Being Stored	To be Condemned
Total							

Note: Minor repairs refer to repairs which may be completed within five days while major repairs refer to repairs which may be completed within six to fifteen days, assuming that needed spare parts, manpower, machinery and materials are available.

IV MANPOWER

Type of Personnel	Number		
	Personnel as of 1980	Working Days/Year	Average Working Hrs/Working Day
Drivers			
Conductors			
Inspectors and Dispatchers			
Service and Supply Workers (e.g., Mechanics)			
Finance and Administrative Personnel			
Executives and Managers			
Total			

JICA