

**URBAN TRANSPORT  
MASTER PLAN STUDY  
FOR THE  
JOHOR BAHRU CONURBATION  
MALAYSIA**

**TECHNICAL REPORT 1  
OWNER INTERVIEW SURVEY**

**MARCH 1982**

**JAPAN INTERNATIONAL  
COOPERATION AGENCY**

**GOVERNMENT OF  
MALAYSIA**



国際協力事業団

18850

JICA LIBRARY



1074647173

18850

CONTENTS

PAGE

PART I

1.	INTRODUCTION .....	1
1.1	An Outline of Car O-D Survey .....	1
1.2	Study Area .....	1
1.3	Traffic Zoning System .....	1
1.4	Methods of the Car O-D Survey .....	2
1.5	The Contents of the Car O-D Survey in this Study Area .....	4
2.	PLANNING AND PREPARATION OF THE SURVEY ...	7
2.1	The Planning of the Schedule of Vehicle Owner Interview Survey .....	7
2.2	Preparation for the Survey .....	8
2.3	Sampling .....	10
2.4	Design of Questionnaire and Manual ..	12
2.4.1	Design of Questionnaire of Vehicle Owner Interview Survey .....	12
2.4.2	Formulation of Other Questionnaires .....	14
2.4.3	Making of the Manual .....	15
2.5	Design of Notification Letter .....	16
2.6	Design of Identification Card and 'Request Letter' .....	18
2.7	Press Release .....	20
2.8	Payment Scheme .....	21
3.	SAMPLING .....	23
3.1	Planning of Sample Size I .....	23
3.2	Sampling Procedure .....	26
3.2.1	To fill up Initial Sampling Sheets by Type of Vehicle .....	26
3.3	Planning of Sample Size II .....	29

	PAGE
3.4 Result of Sampling Procedure .....	34
3.4.1 Number of Vehicle Sampled .....	34
3.4.2 Ratio by Area .....	34
3.4.3 Ratio by Vehicles to Motorcycles .....	35
3.4.4 Result of Sampling Procedure in Primary Study Area by Vehicle Type .....	36
4. THE ACTUAL SURVEY .....	40
4.1 General .....	40
4.2 Enumerating Load .....	41
4.3 Method of Survey .....	41
4.4 Training of Interviewer .....	41
4.5 Taxi Interview .....	44
4.6 Result of Vehicle Owner Interview Field Survey .....	46
5. BRIEF OUTLINE OF DATA PROCESSING .....	50
5.1 Introduction .....	50
5.2 O-D Table .....	50
5.3 Relationship between the O-D Table and each Survey .....	52
5.4 Procedure of Flow of Data in each Survey up to the Completion of the O-D Table .	53
5.5 Items Analysed from the Existing Traffic Condition .....	57
6. INTERVIEWERS' IMPRESSION .....	59
6.1 Outline .....	59
6.2 Findings - General .....	59
6.2.1 Sex Composition .....	59

PART II

	PAGE
6.2.2 Qualification .....	60
6.2.3 Number of Questionnaire Completed .....	60
6.2.4 Form of Transport .....	61
6.2.5 Rate of Collection .....	62
6.2.6 Payment .....	65
6.3 Problems Faced by Interviewer During the Survey Period .....	66
6.3.1 Difficulty in Locating the Samples .....	66
6.3.2 Language Communication Problem .....	66
6.3.3 Hostile Public Response .....	66
6.3.4 Unfavourable Weather .....	66
6.3.5 Summary of Interviewers Impression .....	67
6.4 Impression on the Manual, the Explanation and the Layout of the Questionnaire ..	68
6.4.1 Impression on the Manual and Explanation .....	68
6.4.2 Impression on Layout of Questionnaires .....	68

#### APPENDIX

I Car Owner Interview Survey (Manual) .....	A - 1
II Car Owner Interview Survey (Manual of Inspection) .....	A - 28
III Vehicle Car Owner Interview Survey Traffic Zones .....	A - 33
IV Analytical Zones .....	A - 35
V Analytical Zones .....	A - 36
VI Question 1 .....	A - 37
VII Question 2 .....	A - 39
VIII Sampling Card .....	A - 41
IX Vehicle Owner Interview Questionnaire (in Bahasa Malaysia) .....	A - 42
X Vehicle Owner Interview Questionnaire (in English) .....	A - 43
XI Taxi Interview Questionnaire .....	A - 44

LISTS OF TABLE		PAGE
Table 1	Methods of Car O-D Survey .....	3
Table 2	The Features of the Car O-D Survey .....	3
Table 3	The Contents of the Survey .....	6
Table 4	The Contents of the Screen-Line Survey ..	6
Table 5	Work Schedule of Vehicle - Owner Interview Survey .....	7
Table 6	Travel Allowance .....	22
Table 7	Vehicle Registration in Johor Bahru, RIMV May, 1981 .....	23
Table 8	Results of Computation of Confidence Limit (Motor Cars) .....	25
Table 9	Number of Vehicles in Johor .....	29
Table 10	Result of the Computation of Confident Limit .....	31
Table 11	Initial Target of the Sample Rate .....	31
Table 12	Number of Vehicles Sampled .....	34
Table 13	Result of Sampling Procedure in Primary Study Area by Vehicle Type .....	36
Table 14	Result of Sampling by Zones .....	37
Table 15	Tasks of Survey Teams .....	40
Table 16	Organisation of the Survey Team .....	41
Table 17	Taxi Interview .....	45
Table 18	Result of Vehicle Owner Interview Field Survey .....	46
Table 19	Results of Taxi Survey .....	46
Table 20	Change of Ownership .....	47
Table 21	Survey of Results - Motor Cars .....	47
Table 22	Summary of Results - Motor Cycles .....	48
Table 23	Reason for Notification Letter to be Returned .....	48

	PAGE
Table 24 Confirmation of Sample Size .....	49
Table 25 Final Result .....	49
Table 26 Rate of Collection .....	62



<u>LISTS OF FIGURES</u>	PAGE
Fig. 1 The Type of Traffic Movement .....	5
Fig. 2 Flow Chart of the Preparation .....	8
Fig. 3 General Flow Chart .....	9
Fig. 4 Objectives of Questionnaire .....	12
Fig. 5 Illustration of Taxi Movement .....	16
Fig. 6 Notification Letter .....	17
Fig. 7 Identification Card .....	18
Fig. 8 The Request Letter .....	19
Fig. 9 Press Release .....	20
Fig. 10 Flowchart of Sampling Procedure .....	28
Fig. 11 Graph of Sampling Rate (%) against Relative Error (%) .....	32
Fig. 12 Ratio by Area .....	34
Fig. 13 Ratio of Vehicles to Motorcycles .....	35
Fig. 14 The Specified Days Interview .....	40
Fig. 15 Progress of Explanation .....	41
Fig. 16 Schedule for Interviewer .....	42
Fig. 17 Example of O-D Table .....	50
Fig. 18 Relationship between O-D Table and each Survey .....	52
Fig. 19 Flow Chart of Data Checking .....	54
Fig. 20 Flow Chart of Making O-D Table in the case of Owner Interview Survey .....	55
Fig. 21 Sample Data of Computer Output for Owner Interview Survey .....	56
Fig. 22 Graph of Completed Questionnaire against No. of Interviewers (%) .....	60
Fig. 23 Number of Visits against Collection Rate ..	63
Fig. 24 Chart of Collection Rate (%) against Time (hrs.) .....	64

	PAGE
Fig. 25 Impression on Rate of Payment .....	65
Fig. 26 Interviewers' Impressions for Locating the Owner's House .....	67
Fig. 27 Impression about Questionnaire .....	68
Fig. 28 Impression about the Manual .....	69
Fig. 29 Interviewers Impression from Interviewer .....	70

## 1 INTRODUCTION

### 1.1 An Outline of Car O-D. Survey

Whether new or improved traffic routes and facilities are being planned it is necessary to estimate where they should be located so as to attract or relieve most traffic, and how much traffic they will actually carry when constructed. To do this, it is necessary to determine the pattern of the journeys that people make. The origin-destination (O-D) surveys shows what amount of travel there are between various locations. It does not normally tell much about the actual routes travelled between particular origins and destinations; instead it emphasizes the travel desires rather than the actual routes.

Another purpose of O.D survey is to determine what relationships do exist between the amount and type of travel and the traffic generating factor.

### 1.2 Study Area

The primary study areas defined by the scope of work cover Johor Bahru District and Kota Tinggi. They are:-

Johor Bahru Town, Kota Tinggi Town, Senai, Kulai, Sedenak, Pulai, Tanjong Kupang, Plentong, Ulu Tiram, Sungai Tiram, Tebrau.

The secondary study areas cover Pontian District and part of the Kota Tinggi District.

### 1.3 Traffic Zoning System

The zones have been delineated generally on the basis of the following criteria.

- a. The boundary of a traffic zone shall conform with the boundary of enumeration blocks or group of enumerations of 1980 housing and population census. The boundary of a group of zones shall also conform to the boundary

of the district, mukim, kampung or town. This will facilitates the collection of available data on land use and socio-economic data.

- b. The boundary of a zone shall follow natural and man-made physical features, such as rivers, railway and roads.
- c. The area covered by a zone shall define the area served by roads of public transport routes to reflect both the intensity of the transport and its networks.
- d. The size of the zones shall be variable, generally increasing with distance from the urban center, to reflect both the intensity of the transport and its networks.
- e. As a result, the primary study area is sub-divided into 72 internal traffic zones. The number of zones at each town and mukim is as shown in Appendix. III.

#### 1.4 Methods of the Car O-D Survey

In the primary study area, an origin-destination survey for all vehicles had been conducted and this section explains the outline of the survey that was carried out.

There are a few methods by which the O-D survey can be done. These methods would first be discussed before the most suitable method for this study area is chosen.

All methods of the car O-D survey take into consideration how the questionnaires are administered that is whether the survey is executed by personal interviews or by mail, and where these questionnaires are administered that is, whether it is done by the road side or at home/office.

The methods that can be used in Car O-D survey are illustrated in Table 1.

Table 1 : Methods of Car O-D Survey

Administration of Questionnaire Survey Points	Interview Schedule	Mailed Questionnaire
By the road side	A	C
By home/office	B	D

The specific features of the above methods are illustrated in Table 2.

Table 2 : The Features of the Car O-D Survey

Alternative methods of Car O-D Survey	The contents of the questionnaire	Collection rate expected	No: of Interviewers required	The use registration records
A	Simple questions eg. "Where do you come from? "Where are you going?" An incomplete O-D table can be made from data collected.	High collection rate expected	Many interviewers required	No use is made of the records
B	More detailed questions are asked. Hence a complete O-D table can be made			Use made of the records
C	If too many questions are asked, the accuracy of the answer are at stake. Therefore only a few questions are asked. This method is not suitable for making an O-D table.	Highly dependent on the cooperation of the interviewers approached	Required less interviewer than the above	No use is made of the records
D	It is used to obtain the characteristics of traffic movements.			Use made of the records

From the four alternatives method B is the most appropriate in getting a complete O-D Table.

#### 1.5 The Contents of the Car O-D Survey in this Study Area

With regard to the purpose of this study, it is important that the following considerations are given to the data collected.

The purpose of this study is to draw up a broad master plan. It is therefore not sufficient to take measures that will only help to solve local traffic problems, but also measures to solve the factors influencing the local problem. And this would mean a more detailed and broader data is needed.

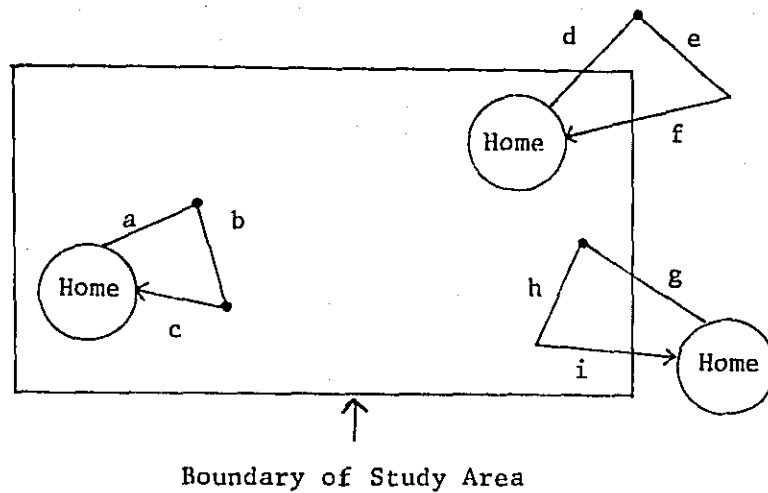
To analysis traffic data we also need other basic data. Therefore, if it is possible, these basic data should be collected together with the traffic data.

Considering the above points, the procedure of car O-D survey will be as in alternative B and is as follows:-

- (i) A large part of car O-D survey was conducted using the interview method at the home/office of the sampled vehicle owners. This method of data collection was expected to yield a high collection rate.
- (ii) In addition to this method, interviews were conducted at the roadside. This was done to offset the limitations that are present in the method of home/office interviews.

The type of traffic movements in the study can be divided as follows:-

Figure 1 : The Type of Traffic Movement



With reference to the above diagram Figure 1, trips a,b,c,d,e,f can be obtained from the owner-interview method while trips d,f,g and i can be obtained from the cordon-line interview method. Only trip h cannot be obtained by either methods, but this trip will be taken into consideration in the course of making future estimates.

Hence in order to analyse all the traffic movement, the following types of surveys were conducted.

Table 3 : The Contents of the Surveys

Types of survey	Methods of survey	Elements of survey	Purpose of survey
Owner-interview survey	interview at the owner's home sampled from registration cards	. vehicles (car, van, truck, bus, taxi) . motorcycles	this survey is conducted in order to grasp the movement of internal trips.
Cordon-interview survey	interview by the roadside	. vehicles . motorcycles	In the owner interview survey, vehicles entering or passing through this study area from other areas cannot be determined. Cordon-interview will cover these.
	count of the traffic volume	. vehicles . motorcycles . bicycles . pedestrians	
Home-interview survey	interview at the owner's home sampled from the list of population census.	. vehicles . motorcycles . train . aeroplane . bicycles . pedestrian	Comprehending the situation of utilizing of public transport for the purpose of modal split.

In addition to the above survey, a screen-line survey was also carried out in which the traffic volume passing an imaginary line was recorded. The purpose of this survey is to verify the results of the owner-interview survey.

Table 4 : The Contents of the Screen-Line Survey

Screen-line survey	Counting the traffic volume	. vehicles . motorcycles . bicycles . pedestrians . trishaws	This survey is conducted in order to verify the result of the owner-interview survey
--------------------	-----------------------------	--	--



2 PLANNING AND PREPARATION OF THE SURVEY

2.1 The Planning of the Schedule of Vehicle Owner Interview Survey

In planning the survey schedule, attention was paid to the following:-

- i) the period of the survey must not include any 'special' days such as King's Birthday on which days traffic movements is different.

It was in the month of September that the above condition were met because in that month there were no public holiday and the survey schedule was planned as follows:-

Table 5 : Work Schedule of Vehicle Owner Interview Survey

	July				August				September				October					
	1	10	20	31	1	10	20	31	1	10	20	31	1	10				
<u>Car Owner-Interview Survey</u>																		
a. Sampling																		
1. Recruit Sampler	8	_____			19													
2. Sampling					20	_____			19									
b. Indentification of Samples																		
1. Write Notification Letter									20	_____								
2. Send Notification Letter											1	_____						
3. Rearrange Samples													3	_____				
c. Training																		
1. Recruit Enumerators													1	_____		4		
2. Training															5	_____		10
Actual Survey																		
d. Design-Printing																		
1. Sampling Card	9	_____			20													
2. Notification Letter					20	_____			5									
3. Manual for Enumerators					20													
4. Questionnaires					20													

The actual schedule of the survey as it was being carried out is as follows:-

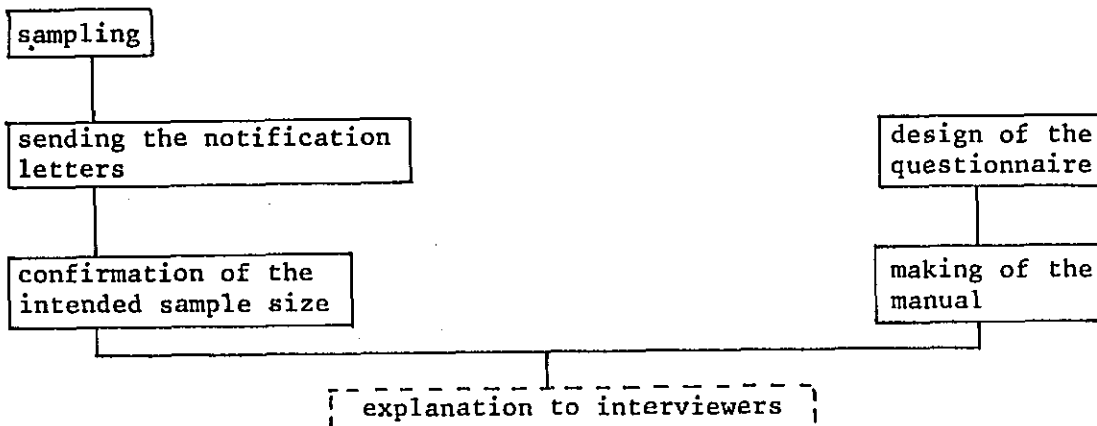
18th July - 21st Aug.	sampling
27th August	notifications were sent to sampled owner's homes
1st Sept. & 3rd Sept.	explanation to the interviewers
5th Sept. - 10th Oct.	owner interview survey
11th Oct. - 31st Oct.	inspection of collected questionnaire and data processing

## 2.2 Preparation for the Survey

The bigger the scale of the survey, the more preparation is necessary to implement it successfully. This section deals with the contents/results of the preparation of the survey.

The schedule of the preparation is as follows:-

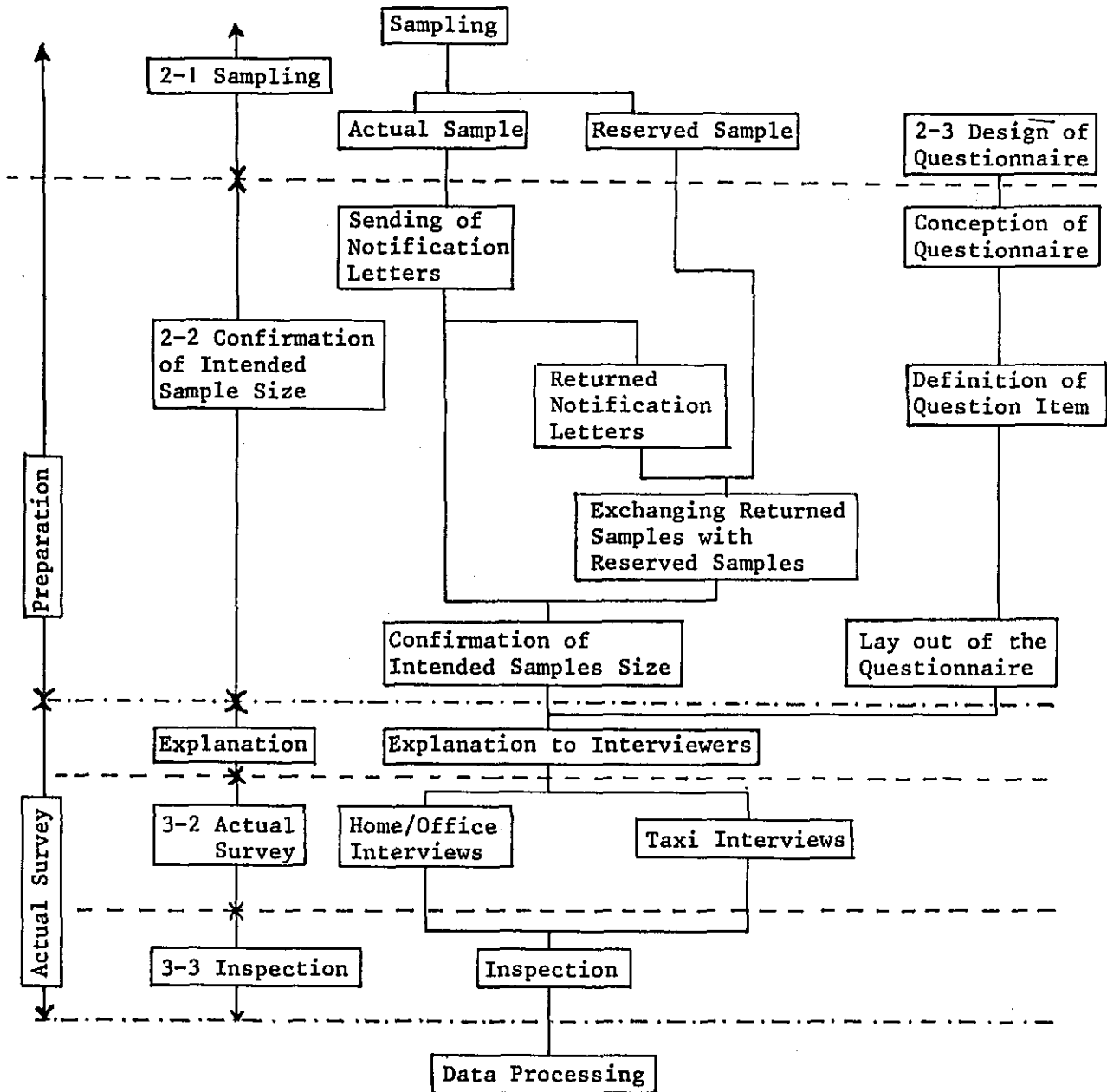
Figure 2 : Flow Chart of the Preparation



General Flow Chart of "Owner - Interview" Survey

The owner-interview survey was carried out according to the following flow chart. The duration of the actual interview was five weeks and it involved a total of 153 interviewers.

Figure 3 : General Flow-Chart



### 2.3 Sampling

Sampling is the most basic part of a survey. The purpose of sampling in an owner interview survey is to select the vehicles which are to be the units of the survey.

The records which can be made use of in the sampling procedure of the owner interview survey are:-

- i) Registration cards of residents.
- ii) Registration cards of vehicles.
- iii) Maps of residence.
- iv) Others.

In the state of Johor, all motorcycles and motor vehicles are registered at R.I.M.V. Therefore it would be most appropriate to make use of the records from this department.

The following information can be obtained from the registration records of the R.I.M.V.

- i) Registration number of vehicles/motorcycles which is made up of the registration letter and the registration number.
- ii) The registration letter begin with 'JA' and continues in alphabetical order. As of May 1979, the latest registration letter is 'JAN'
- iii) The registration number is from 1 to 9999.
- iv) These registration numbers were registered in order in which the application were made. Therefore, there is no classification by area or by type of vehicles except for taxis.
- v) The registration letter of taxis is 'H'

Given the above information, the following sampling procedure can be decided upon:-

Since the owner-interview survey is to be conducted only in the internal area, it is sufficient just to take samples of vehicle owners living in the

internal areas. This however, would not be possible because the records do not have such a classification, viz by area. Thus, the sampling procedure had to be carried out for all the vehicles registered at Johor Bahru R.I.M.V. and then the units of the owner-interview survey will be selected from these samples; that is only vehicle owners living in the internal areas.

A salient features of the method of sampling adopted is as shown under the Chapter of 'SAMPLING'.

#### The Sampling Card

Sampling card was used for the sampling procedure as well as for the interviews. Therefore the sampling card were devised such that the top portion is for 'supervisor' while the lower portion is for 'interviewer'.

An example of the sampling card is on Appendix VIII.

Interviewer should note the following:-

- i) "Telephone number" (on card B - for Interview)  
Interview should try to fill in the telephone numbers of the owner wherever possible.
- ii) Memo (on card B)  
This space may be used for the following particulars:-
  - comments on sampled vehicle (eg. accident or sold)
  - address of new owner - when sampled owner has moved
  - comments of owner
  - address of owner's office
  - etc.

## 2.4 Design of Questionnaires and Manual

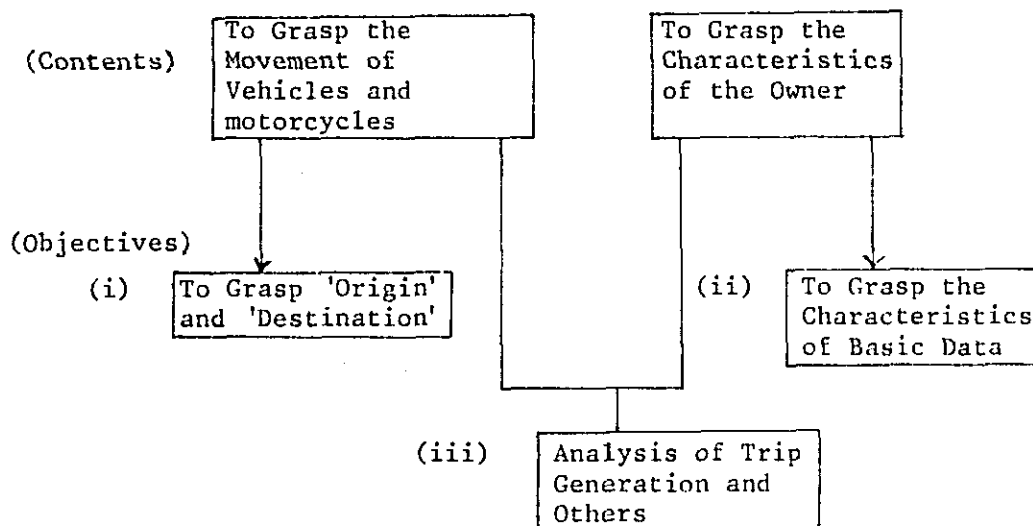
### 2.4.1 Design of Questionnaires of Vehicle Owner Interview Survey

The designing of the questionnaire is a very important task of the survey. The questionnaire should not be ambiguous and should be easy to comprehend and acceptable by the general public.

#### a) Objectives of Questionnaire

The objectives of the questionnaire are as follows:-

Figure 4 : Objectives of Questionnaire



#### i) To grasp 'origin' and 'destination'

This is an essential objective of this survey and the movement of vehicles and motorcycles during one average day must be obtained.

In order to grasp the above movement, it is required that the following items be questioned upon.

- a) type of vehicle
- b) origin
- c) destination
- d) trip purpose
- e) departure/arrival time
- f) number of passengers
- g) type and amount of commodity carried.

ii) To grasp the characteristics of the owner

It is necessary to grasp the characteristics of people of each zone, that is, what kind of people are involved. These questions about the characteristics are used not only for traffic analysis but also as basic data for this study.

In order to grasp the characteristic of the owner, the following items are required:-

- a) address of owner
- b) sex of owner
- c) age of owner
- d) number of occupants of owner's home
- e) occupation of owner
- f) types of establishment about working place
- g) size of employment about working place
- h) address of working place

iii) Analysis of trip generation and others

It is generally thought that the movement of vehicles and motorcycles differ according to the characteristics of the owner, that is by occupation, age, sex, etc. It is expected that the number of routine trips, their origins and destinations also differ.

Therefore, analysis must be done on the relationship between the movement and the attributes of the owner. Besides this, information regarding parking place is needed in order to grasp the actual nature of parking patterns. Therefore it is required that the following items be questioned upon:-

- a) period of owner-ship
- b) average mileage per day
- c) usage of vehicle per week
- d) nature of establishment
- e) place of parking

b) Definition of Items to be Questioned Upon

The contents of these items are divided into the following two groups:

- i) 'Trip' Items
- ii) Other Items

(See Appendix II for Definition)

The questionnaire for the Vehicle Owner Survey is as shown in Appendix IX and X.

1.2 Formulation of Other Questionnaires

It is the purpose of the owner interview survey, to catch the movement of all types of vehicles. But there are some exceptions, the movements of which cannot be obtained by using the owner interview survey questionnaire. These are the movements of taxis and buses. These type of vehicles have too many collection/dropping points as compared to usual vehicles.

Therefore, the questionnaire must be adapted to take into account the actual movement of these vehicles.



Origin	Destination					No. of Passengers
		①	②	③	④	
Taxi Station	Point C	Point A	Point B	-	-	3

The movement that are obtained by this questionnaire are only for passenger trips. The trips of empty cars are to be estimated after the questionnaires are collected.

A taxi survey questionnaire is as shown in Appendix XI

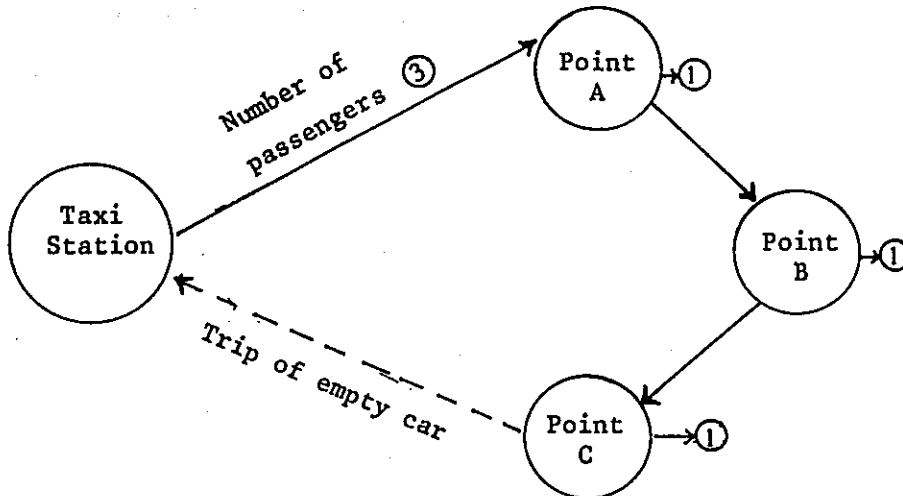
#### 2.4.3 Making of the Manual

Manual of Car Owner Interview Survey and manual of inspection is as shown in Appendix I and II.

i) The taxi survey questionnaire

The difference between the movement of taxis from other usual vehicles is that taxis have some specific dropping points, that is, the place where the passengers are dropped off. Therefore a column for 'dropping points' were included.

Figure 5 : Illustration of Taxi Movement



2.5 Design of Notification Letter

To avoid any inconveniences at the time when a sample is approached by an interviewer, a notification letter was sent to the selected samples prior to the survey date to inform him of the forth coming survey.

Figure 6 : Notification Letter

UNIT PERANCANG EKONOMI NEGERI JOHOR

TINGKAT 1, BANGUNAN KERAJAAN,  
JALAN BUKIT TIMBALAN  
JOHOR BAHRU

19hb. Ogos, 1981.

Kepada Sesiapa Yang Berkenaan

Tuan/Puan,

Per: Kajian Pengangkutan Johor Bahru

1. Sukacita dimaklumkan bahawa Kerajaan Malaysia dengan kerjasama Kefajaan Negeri Jepun, dan dengan persetujuan Kerajaan Negeri Johor serta dibantu oleh Majlis Perbandaran Johor Bahru, sedang menjalankan kajian untuk menyediakan satu pelan induk pengangkutan untuk daerah Johor Bahru dan kawasan di sekitarnya.
2. Untuk menyediakan satu sistem pengangkutan yang sesuai serta pratikal, pasukan kajian memerlukan maklumat berkenaan dengan taraf sosio-ekonomi dan corak perjalanan pemilik-pemilik kereta yang tinggal di Johor Bahru dan kawasan di sekitarnya.
3. Nama tuan telah terpilih dari rekod Jabatan Pengangkutan Jalan dan dengan itu sukacita jika dapat tuan bekerjasama dengan memberi maklumat yang diperlukan. Semua maklumat yang diberi hanya akan digunakan untuk kajian ini sahaja dan adalah sulit.
4. Borang-borang soalan akan dikirimkan kepada tuan dalam sedikit masa lagi dan seorang penemuduga akan melawat rumah/pejabat tuan pada bulan September 1981 ini untuk mengambil borang yang telah dipenuhi dan juga untuk membantu tuan menjawab soalan-soalan yang dikemukakan jika perlu.
5. Kerjasama yang sepenuhnya dari pihak tuan sangatlah diharapkan.

Terima kasih.

Yang benar,

(Dr. Shahir bin Nasir)  
Pengarah,  
Unit Perancang Ekonomi Negeri,  
JOHOR.

2.6 Design of Identification Card and 'Request Letter'

An identification card which should be carried by an interviewer at all times when conducting a survey is shown in Fig. 7. An interviewer is expected to show this identification card whenever required by the samples he approaches.

<b>KAJIAN LALULINTAS</b>		No	<b>290</b>
<b>YUNIT PERANCANG EKONOMI NEGERI, JOHOR.</b>		Saiz K/P.	
NAMA _____			
KAD PENGENALAN NO. _____			
telah di lantik sebagai Pembenci untuk menjalankan Kajian Pengangkutan Johor Bahru.			
T.T. Pemegang			

<ol style="list-style-type: none"> <li>1. Pas ini ialah surat rasmi yang dikeluarkan kepada pembenci untuk menjalankan tugas rasmi dalam kajian Pengangkutan Johor Bahru.</li> <li>2. Pas ini hendaklah dipakai pada setiap masa semasa menjalankan tugas.</li> <li>3. Pas ini hendaklah diserahkan balik kepada pejabat yang mengeluarkan apabila pemegangnya telah berhenti atau bertukar dari jawatan yang menyebabkan pas ini dikeluarkan.</li> <li>4. Kehilangan pas ini mestilah dimaklumkan dengan segera kepada pejabat yang mengeluarkannya.</li> <li>5. Sesiapa yang menjumpai pas ini hendaklah menyerahkan pas ini ke Balai Polis atau kepada Pegawai Polis. Pegawai Polis dikehendaki mengembalikan pas ini kepada Setiausaha Kerajaan Negeri Johor.</li> </ol> <p style="text-align: right;">b.p. Pengarah, Yunit Perancang Ekonomi Negeri, Johor.</p>
--

Fig. 7 : Identification Card

Should a sample not be at home/office when visited, the interviewer would leave a questionnaire and a 'Request Letter' for him to complete on his own. The 'request letter' would contain the time and date when the interviewers would make a call-back.

Figure 8 : The Request Letter

Pejabat Unit Perancang Ekonomi Negeri,  
Johor,  
Tingkat 1, Bangunan Kerajaan,  
Jalan Bukit Timbalan,  
Johor Bahru.

hb. September, 1981.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Tuan,

Per: KAJIAN PENGANGKUTAN BANDAR JOHOR BAHRU DAN SEKITARNYA.

Berhubung dengan perkara diatas dan surat pemberitahu bertarikh 19hb. Ogos, 1981, saya telah berkunjung ke rumah tuan untuk menjalankan banci bagi kajian yang tersebut di atas. Dukacita dimaklumkan tuan telah tidak dapat ditemui. Oleh yang demikian, diharap tuan dapat memenuhi borang yang dikembarkan ini, sebelum ..... dan saya akan melawat semula rumah/pejabat pada tarikh tersebut untuk mendapatkan borang yang telah dipenuhi itu kembali.

Kerjasama tuan sangat diharapkan.

Sekian, terima kasih.

.....

(PEMBANCI)

## 2.7 Press Release

The success of a survey depends to a very large extent on the willingness of the public to answer all the questionnaires put forward to them. This requires an extensive publicity programme prior to the survey so that the general public will become conscious of the importance of cooperating with the interviewer. This massive study was given publicity through the newspaper and the radio. The newspaper cutting below is an example:-

# 15,000 picked for Johore traffic survey

**JOHORE BARU, Tues. —** Some 15,000 vehicle owners here and in Kota Tinggi will be interviewed over a month as part of an urban transport master plan study undertaken by a Japanese team.

The vehicle owners are being picked at random from records of the Road Transport Department for the survey on the socio-economic conditions and travelling patterns of motorists in Johore Baru and the surrounding areas.

The enumerators began their interviews last Saturday visiting the selected vehicle owners.

A statement from the

State Economic Planning Unit said the main objective of the study was to formulate a transport master plan that would effectively serve the present and future needs of the Johore municipality.

However the area of study is expected to extend beyond the municipality as the traffic from the neighbouring areas and districts also affects the traffic system in the municipality.

The study is part of a Japanese technical assistance programme in the country.

It is monitored by a technical committee chaired by the State Secretary.

Fig. 9 Press Release

## 2.8 Payment Scheme

The basic payment of \$11.00 per day as stated in the appointment letter to the interviewers is no longer valid and is replaced by the following scheme.

Payment will be paid according to the results of the collection of questionnaires made. For every questionnaire completed the enumerator will be paid a sum of \$3.00 per sample.

This change is necessary because most of the enumerators are part-time and there are no means of detecting their working days. Payment by piece is fairer and it encourages the enumerator to interview as many samples as possible.

All the enumerators are aware of these changes and they were given the flexibility of interviewing the neighbours, when the actual sample cannot be located. This means that they will be paid even if the actual sample is replaced by a substitute sample.

### Transport Allowance

Payment for the transport allowance varies by zones and is as shown in Table 5.

The further and the bigger the zones the more will the travel allowance be. This system takes into consideration the distance between each individual sample within a certain zones and the transport system to go to interview these samples.

Zone Code	Additional Payment per collected Questionnaire
All zones 1 and 2, 311-315 321-325, 331-333, 341, 342 & 351	M\$0.90
361-364, 371-374, 413, 441-444	M\$1.10
411, 412, 414, 421-424, 431, 432, 451-453, 461 & 462	M\$1.60

Table 6 Travel Allowance

Enumerating Load

MPJB                    24 samples/week/enumerator  
 Outside MPJB        22 samples/week/enumerator



### 3. SAMPLING

Before a survey can begin, an estimation of the sample size must be determined and in any survey the selection of a sample size consistent with the required accuracy of the estimate is most important.

The estimation of the sample size is done by using the data of the number of vehicle registered in the R.I.M.V. and the required confident degree.

#### 3.1 Planning of Sample Size

The number of vehicle registered given by the R.I.M.V. is as shown below:-

Table 7 : Vehicle Registration in Johor Bahru, R.I.M.V.  
May, 1981

	Number	Per Cent
Buses	1,955	0.6
Taxis	2,338	0.8
Hire	25	-
Lorries	20,593	6.8
Cars	84,689	27.8
Tractors, Road Rollers, etc.	6,022	2.0
Motor-Cars Total	115,622	38.0
Motor Cycles	188,847	62.0
Total	304,469	100.0

Source : R.I.M.V. Johor Bahru.

Using the information provided the number of vehicles in the primary areas was estimated as below:-

Motorcars	60,000
Motorcycles	<u>101,000</u>
Total	<u>161,000</u>

In practice, it is impossible to conduct the interview survey for all vehicles so, a sample survey is usually adopted for such surveys. In order to determine the sampling rate, the sampling error should be maintained within an acceptable range. To calculate the sampling errors the following equation is used:-

$$LP1 = P1 \pm W \sqrt{\frac{P1.P2}{N} \left(1 - \frac{N}{S}\right)}$$

where:

- LP1 : Confidence limit P1
- N : Number of trips sampled
- n : Number of trips on a certain OD pair
- S : Total number of trips
- P1 : n/N
- P2 : 1 - P1
- W : Coefficient of confidence degree

Inputs to the above equation are as follows:

In case of motor-cars

- a. Number of trips 4 trips per vehicle
- b. Total number of trips 240,000 trips
- c. Number of zones 55 zones in primary study area
- d. Sampling rates 10%  
12%  
15%  
20%
- e. Number of trips sampled 28,800 trips (12%)
- f. Number of trips on a certain OD pair  $n = \frac{28,800}{55 \times 54 \times \frac{1}{2}}$

The results of computation of confidence limit are presented below:

Table 8 : Results of Computation of Confidence Limit (Motor Cars)

Confidence degree		Sampling Rate	10%	12%	15%	20%
		90%	Confident Limit ( $\times 10^{-4}$ )		6.7 $\pm$ 2.6	6.7 $\pm$ 2.4
Variable Range			$\pm$ 38.8%	$\pm$ 35.8%	$\pm$ 31.3%	$\pm$ 26.0%

This table suggests that for motor cars, the sampling rate should be 12% in case of keeping a confidence degree of 90% and if the variable range of OD traffic volume is to be limited below approximately 35%

From these examinations, the following sampling rate would be applied in the owner interview survey.

Motor-cars            12%  
Motor-cycles        8%

Therefore, total number of samples to be surveyed in the primary study area are as follows:

Motor-cars	7,260
Motor-cycles	<u>8,070</u>
Total	<u>15,330</u>

## 3.2 Sampling Procedure

Sampling was carried out to obtain the units of the survey from the Registration Record of the R.I.M.V. office. Sampling was done in two stages and the flow chart of the procedure is as shown in Figure 11. The initial sampling rate was 14% and the sampling process should follow the procedure stated below:-

### 3.2.1 To fill up initial sampling sheets by type of vehicle

- a. The person engaged in carrying out the sampling process in R.I.M.V. (Registrar and Inspector of Motor Vehicle) should collect the following material from the supervisor:-
  - i) Registration cards (R.I.M.V.)
  - ii) Initial sampling sheets
- b. Initial sampling work.

The first sample is picked from the 7th. card. The second sample is picked from the next 7th card. This process is repeated and the succeeding sample are picked from every 7th. card up to the end of the registration cards.
- c. The following particulars from the sample's registration card are transferred to the initial sampling sheets according to the type of vehicle:
  - i) Type of vehicle
  - ii) Registration number
  - iii) Owner's name
  - iv) Owner's address
- d. In counting or choosing the samples, the following cards which are marked:-
  - i) DEAD
  - ii) TRANSFERRED TO
  - iii) CANCEL

(But the date of the mark should be noted and compared with the 'date' of the latest ownership) should be ignored.

- e. All the initial sampling sheets and registration cards should then be brought to the supervisor concerned for inspection/approval of work done.
- f. This is followed by the filling up of zone code. Zone code is shown in Appendix III. This process is carried out in the study office.
- g. The particulars from the initial sampling sheets should then be transcribed to the sampling cards.
- h. All the sampling cards are to be classified by zones. Therefore sampling cards is divided into the following 4 groups by type of vehicle zone.
  - i) Sampling cards of motor car in study area.
  - ii) Sampling cards of motor car in external area.
  - iii) Sampling cards of motor cycle study area.
  - iv) Sampling cards of motor cycle in external area.
- i. The next step is secondary sampling work. This is done by picking 5 out of every 6 sampling cards of motor car in the study area. Therefore, sampling cards of motor car in the study area is divided into 2 groups.
  - a. Actual samples (5 cards of every 6 cards)
  - b. Supplement samples (the other 1 card)
- j. Next process is to send a notification letter to the owners of actual samples (car and motor-cycles). Then, the owners confirming and returning the case of no confirmation we have to exchange the samples using the supplement

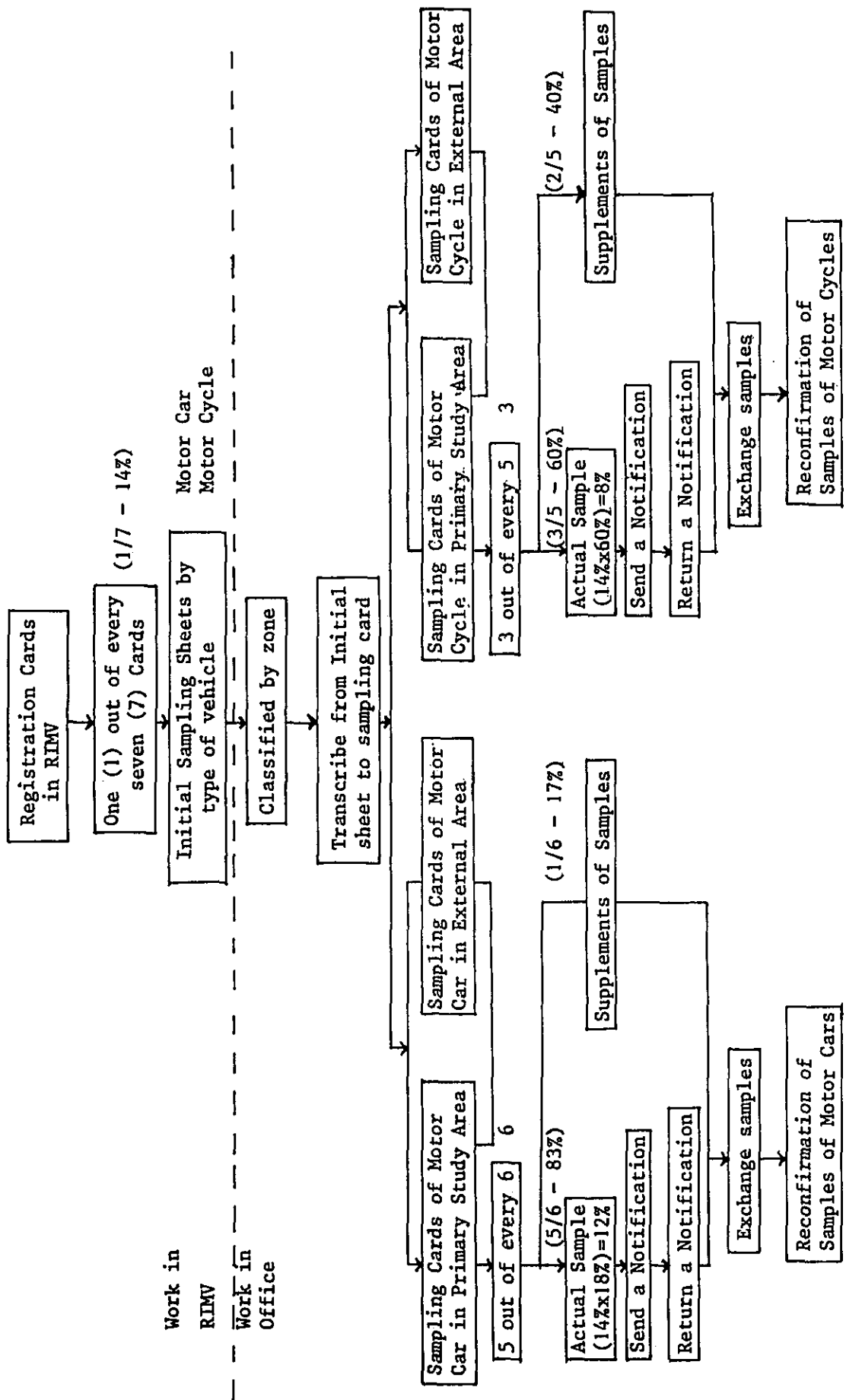


Figure 10 : Flow Chart of Sampling Procedure

samples. And we must reconfirm the actual samples of motor cars and motor cycles again.

### 3.3 Planning of Sample Size II

When sampling work was completed it was found that the number of vehicles sampled was much smaller than the estimated number (See Page 25 ). Upon counting the total number of vehicles registered at Johor Bahru R.I.M.V. again the following result was obtained:-

Table 9 : Number of Vehicles in Johor

	Number of Vehicle registered in R.I.M.V. JB*	Number of Vehicles in Primary study area	Number of Vehicles in external area	Number of samples to be interviewed
Motor Cars	63956 (38.6%)	42441	20615	6063(14.2)
Motor Cycles	100297 (61.4%)	44289	56008	6218(14.0)
Total	163353 (100%)	86730	76623	12281(14.1)

\* R.I.M.V. JB comprises of Johore Bahru District, Kluang, Kota Tinggi, Mersing and Pontian

Motorcars include cars, lorries, taxis and buses.

The reduction in the number of vehicles lies in the fact that the figures given by R.I.M.V. include those vehicles that were registered in Muar R.I.M.V. office.

This reduction in the number of vehicle registered made it necessary for the calculation on sample size to be analysed again.

The same condition as for planning of Sample Size I was applied except for the number of traffic zones which was aggregated to 43 analytical zones. This step was taken because from the result of the

sampling procedure it can be seen that a few zones within the Majlis Bandaran limit have a smaller number of registered cars in them. These usually occurs in new housing estate and other non-residential area. To minimise error in the assumption of average trips made from these zones it is necessary to aggregate them. Aggregation was based on the traffic zones, the number of cars registered within the traffic zones and the transport system serving these zones. The aggregated analytical zones is as shown in Appendix IV and V.

The result of the computation of confident limit using the following input is as shown in Table 10.

$$\text{Equation is:- } LP_1 = P_1 \pm W \sqrt{\frac{P_1 P_2}{N} \left(1 - \frac{N}{S}\right)}$$

Inputs are:-

for motor cars:-

a.	Number of trips per vehicle	4 trips
b.	Total number of trips	42441 x 4
c.	Number of zones	43 zones
d.	Sampling rates	8%
		10%
		12%
		14%



Table 10 : Result of the Computation of Confident Limit

		Confidence Degree	Sampling Rate			
			8%	10%	12%	14%
Cars	90%	Confident Limit (x 10 <sup>-4</sup> )	11.1 ± 4.5	11.1 ± 4.0	11.1 ± 3.6	11.07 ± 3.3
		Variable Range	+40.79%	+36.08%	+32.57%	+29.81%
Motor-Cycle	90%	Confident Limit (x 10 <sup>14</sup> )	11.07 ± 4.47	11.1 ± 3.95	11.07 ± 3.57	11.07 ± 3.26
		Variable Range	+40.32%	+35.69%	+32.2%	+29.49%

From the result it can be seen that to maintain a confidence degree of 90% and a variable range at the most of 35% a sample size of 10.5% and 10.3% both for motorcars and motorcycle respectively must be obtained.

Table 11 : Initial Target of the Sample Rate

	Motor Cars	Motor Cycle	Total
No. of Samples to be interviewed	4456 (10.5%)	4562 (10.3%)	9018 (10.4%)

GRAPH OF SR (%) AGAINST RE (%)

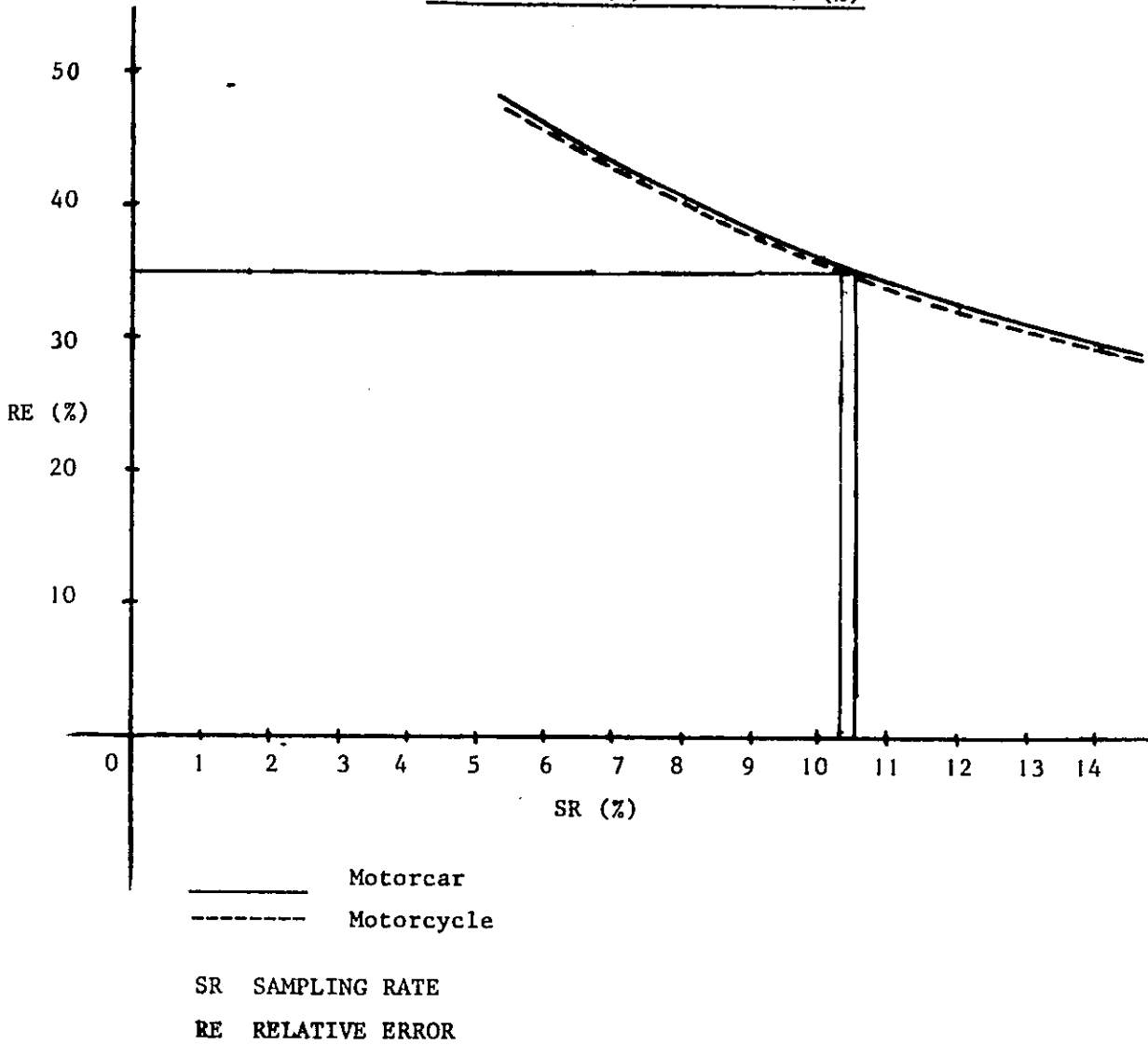


Fig.11

In an owner interview survey a 100% collection rate is virtually impossible due to several reasons such as the questionnaire was incorrectly filled or even due to the sample's reluctance to answer any of the questions put forward to them. These errors and others will be taken into account as the uncollected ratio.

Apart from the above, the uncollected ratio also depends on the nature of the survey area, that is the extent of the area, the population density and accessibility of these places by public transport system.

It is estimated that in this area a collection ratio of 75% is possible.

Since the target collection of the survey is 10.5% and the collection ratio is 75% it is sufficient for the initial sample rate to be 14% ( $14 \times 0.75 = 10.5\%$ ) both for motorcars and motor-cycle. As a result all the samples taken from R.I.M.V. office have to be interviewed with none left as supplement samples.

3.4 Result of Sampling Procedure

3.4.1 Number of Vehicles sampled

Table 12 : Number of Vehicles sampled

	Vehicles			Motorcycles		
	Number of Vehicle	Sample Size	Collection Rate Expected	Number of Motorcycle	Sample Size	Collection Rate Expected
Primary Study Area	42441	6063 (14%)	4456 (10.5%)	44289	6218 (14%)	4562 (10.3%)
External Area	20615	-	-	56008	-	-
Total	63056			100297		

3.4.2 Ratio by Area

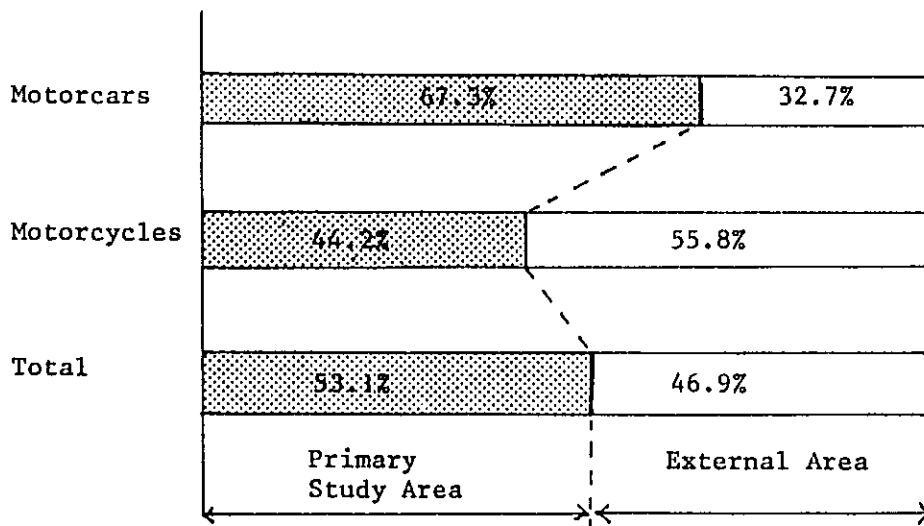


Fig. 12

3.4.3

RATIO OF VEHICLES TO MOTORCYCLES

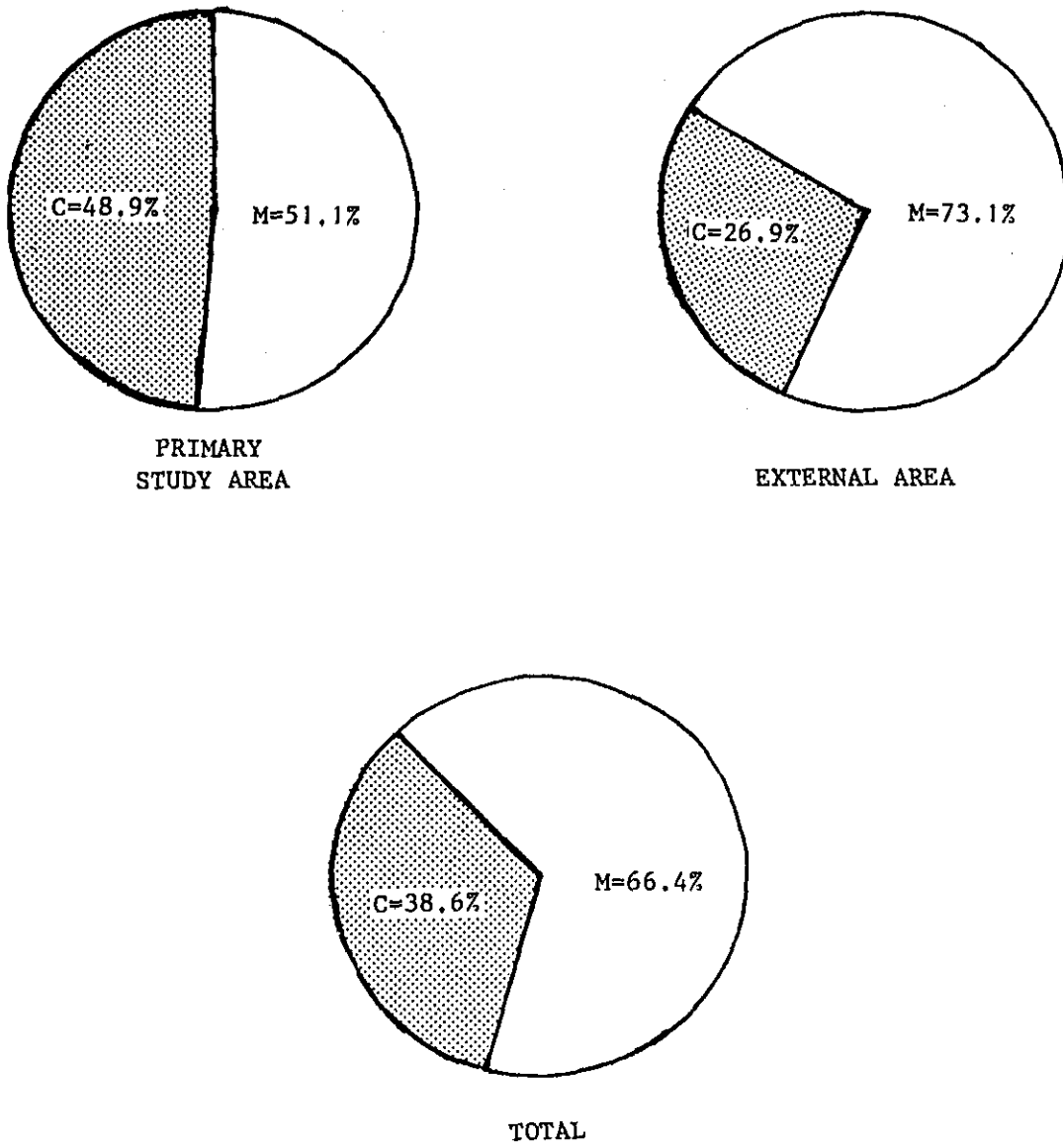


Fig. 13

3.4.4 Result of Sampling Procedure in Primary Study Area by Vehicle Type

Zone Code	Car	Van & Pick-up	Medium Lorry	Heavy Lorry	Bus	Total Motor Vehicle	Motor Cycle	Total
1	676	93	33	14	8	824	380	1180
2	2073	103	56	13	18	2263	895	3027
3	1759	96	61	15	12	1943	2155	3890
4	934	54	29	12	4	1033	2788	3830
<b>Total</b>	<b>5442</b>	<b>346</b>	<b>179</b>	<b>54</b>	<b>42</b>	<b>6063</b>	<b>6218</b>	<b>12281</b>

Table : 13

Table 14 : Result of Sampling by Zones\*

District	Mukim	Zone	Motor Cars	Motor Cycle	Total
District Bahru Johor	MPJB	111	66	9	75
		112	5	7	12
		113	78	21	99
		114	63	22	85
		121	106	41	147
		122	80	23	103
		123	171	79	250
		211	6	3	9
		212	36	21	57
		213	51	24	65
		221	74	34	108
		222	113	33	146
		223	59	12	71
		224	9	4	13
		225	18	3	21
		231	65	1	66
		232	125	60	201
		241	170	61	231
		242	481	318	799
		243	212	38	250
		251	114	9	123
		252	91	37	128
		261	99	29	128
		262	291	77	368
		263	131	16	147
		264	0	0	0
		265	245	37	282
		271	219	88	307
		272	93	34	127
		281	61	39	100
		311	80	101	187
		312	1	1	2
		313	46	31	77
		314	196	82	278

District	Mukim	Zone	Motor Cars	Motor Cycle	Total	
Johor Bahru District		315	300	108	408	
		321	173	109	282	
		322	60	56	106	
		323	108	91	199	
		324	32	42	74	
		325	75	19	94	
		331	105	47	152	
		332	210	199	409	
		333	31	53	84	
		341	114	91	205	
		342	177	116	293	
		351	53	39	92	
		352	6	4	10	
		353	0	1	1	
		Plentong	361	51	50	101
			362	75	60	135
			363	3	0	3
			364	7	35	42
			371	39	120	159
			372	163	157	320
			373	1	11	12
			374	6	68	74
		Tanjung Kupang	411	4	34	38
		Jelutong/ Pulai	412	43	232	275
			413	50	81	131
			414	101	187	288
		Kulai/ Senai	421	161	144	305
			422	325	311	636
			423	25	236	261
			424	94	207	301
		Sedenak	431	205	78	283
			432	7	24	31



District	Mukim	Zone	Motor Cars	Motor Cycle	Total
Johor Bahru District	Tebrau	441	21	50	71
		442	0	4	4
		443	22	27	49
		444	35	234	269
Kota Tinggi District	Ulu Sg. Johor	451	32	247	279
		452	9	73	82
		453	204	319	523
Johor Bahru District	Sg. Tiram	461	9	53	62
		462	9	71	80
Total			6810	5471	12281

\* Number of Vehicles within the zones have been adjusted according to field survey.

4. THE ACTUAL SURVEY

4.1 General

The vehicle owner interview survey commenced on the 5th of September and was carried out for a period of five weeks with an average of about 100 interviewers per week.

The interview involved the routine trips made by the owner on the average, so the following days were specified as the most appropriate days for the interviews to be conducted.

Figure 14 : The Specified Days for Interviews

September																																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10		

Specified Day.  
Public Holiday

Friday, Saturday and Sunday were exceptional.

For the purpose of conducting the interview smoothly, the sample was divided into the following 2 types and 2 separate teams were allocated for each.

Table 15 : Tasks of Survey Teams

Survey Team	Tasks
1. Owner interview team	Interview of owners at their homes/office.
2. Taxi interview team	Interview of taxi-drivers at the taxi stations

Table 16 : Organization of the Survey Team

Survey Team	Intended Number of Interviews	Supervisors	Interviewers
Owner Interview team	12281 vehicles	13	100
Taxi interview team	7 stations	1	9

4.2 Enumerating Load  
 MPJB 24 samples/week/enumerator  
 Outside MPJB 22 samples/week/enumerator

4.3 Method of Survey  
 This survey was carried out according to schedule shown on page 42 , Fig. 16.

4.4 Training of Interviewer

Instruction to Interviewers

On the 1st and 3rd of Sept. instruction were given to the interviewer pertaining to their task at the Bilek Mesyuarat JKR, Bukit Timbalan, Johor Bahru.

The interviewers were divided into 3 groups ie. two sessions on the 1st of September and one morning session on the 3rd of September.

The instruction were given as follows:-

Fig. 15 : Progress of Explanation

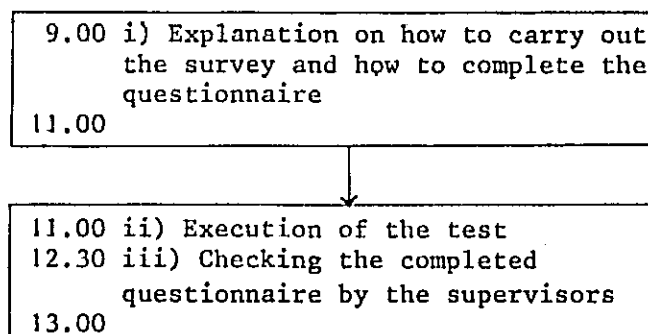
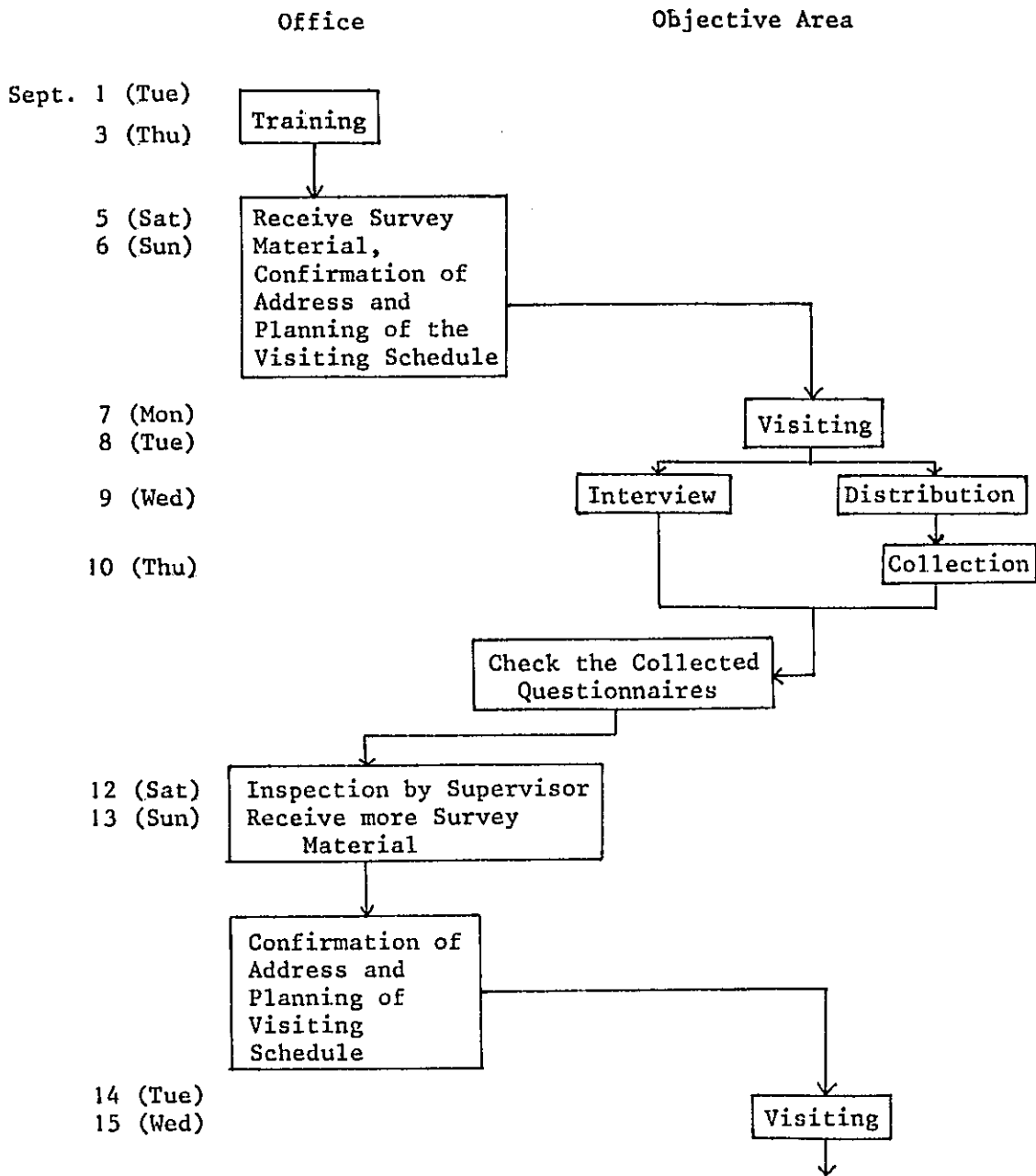


Figure 16 : Schedule for the Interviewer



(Repeat 5 times from 5th. Sept. to 10th. Oct. 1981)

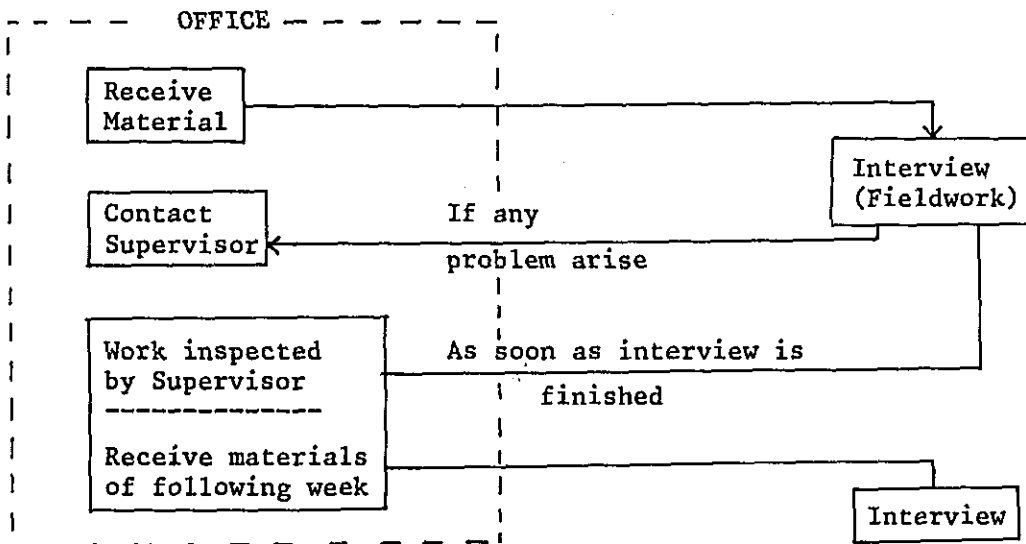
The explanation was conducted according to:-  
 "Vehicle Owner Interview Survey Manual". (See  
 Appendix I).

Although the explanation was conducted, it is  
 expected that not all of the interviewers could  
 understand the method of survey and how to complete  
 the questionnaire. It is with this thought that the  
 test was executed; simply to ensure that the interviewers  
 comprehend the instructions and explanation clearly.

The questions and answers of the test are as  
 shown in Appendix VI and VII.

Contact with Supervisors

Interviewers are expected to follow the schedule below:



Interviewers must report back to the office to  
 their respective Supervisors as soon as they have  
 completed their interviews.

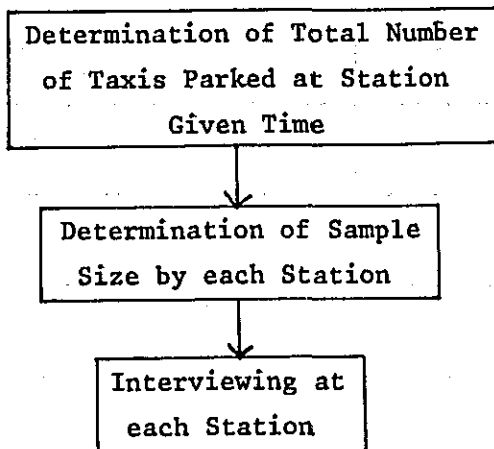
The office is opened during the following times:-

Saturday - Wednesday	8.30 a.m. - 12.45 p.m.
	2.00 p.m. - 4.30 p.m.
Thursday	8.30 a.m. - 12.45 p.m.

Interviewers are also expected to report by Saturday  
 mornings regardless of whether they finished or not.

#### 4.5 Taxi Interview

Owners of taxis whose names were obtained from the sampling sheets were interviewed in the same way as in the other interview as the registrations were done only according to the owners names, it was estimated that it would be a problem to find out the actual movement of a particular taxi because the owners are not always the driver of these taxis. So the interviews were carried out in the following ways:-



Firstly, a pre-survey was conducted for the purpose of obtaining the total number of taxis parked at each taxis-station. This pre-survey was conducted at the 7 stations in the study area and the number of taxis parked were recorded hourly from 0900 hrs. to 1800 hours. Then samples of taxi at each station were picked out at a rate of 50%.

Taxi interviews are expected to be more difficult to conduct compared to the other interviews. This is because the drivers of taxis do not really remember their movements, but the special interviewers were selected for this purpose.

Table 17 Taxi Interview

Station No.	Name and Address of Station	Average Number of Taxis Parked	Sampled Number	Collected Sample	Collection Rate
1	Jalan Station, Johor Bahru	99	50	45	90%
2	Perhentian Bas, Johor Bahru	12	6	4	67%
3	Jalan Dewan, Johor Bahru	19	10	10	100%
4	Jalan Siu Koon, Johor Bahru	9	5	5	100%
5	Jalan Jambatan, Kota Tinggi	9	5	5	100%
6	Jalan Jaafar, Kota Tinggi	18	9	5	56%
7	Jalan Besar, Kulai	17	9	8	89%

4.6 Result of Vehicle  
Owner Interview  
Field Survey

Table 18 : Result of Interview

	Motor Vehicle	Motor Cycle	Total
Initial sample issued	6063	6218	12281
Collected sample*	5443	4280	9723
Collection rate	89.8	68.8	79.2

Table 19 : Results of Taxi Survey

Total Number of Taxi Stations	7
Average Total of Parked Taxis	183
Sample Size	92 (50%)
Collected Total	82
Collection Rate	89.1%

The result shows a high collection rate which indicate a good cooperation from the public and commendable effort from the interviewer when conducting the interview.

The survey also indicates that many motorcycle owners have by the time of the survey aquired motorcars and have either sold their motorcycles or have them in scrapped. This means that the living standard of the public is getting higher. The change of ownership is as indicated below:-



Table 20 : Change of Ownership

	Motor Car	Motor Cycle
No. of Vehicle counted at RIMV	6063	6218
No. of Vehicle according to field survey	6810	5471
Change in ownership	747 (12.3%)	747 (12.0%)

SUMMARY OF RESULTS

Table 21 : Motorcars

Motorcars*	Number	% of Total Population	% of Initial Sample
Number of motorcars in Primary Study Area	42441	100	-
Initial sample	6063	14.2	100
Sample interviewed	5443	12.8	89.8
Notification letter returned	490	1.2	8.1
Refused to answer	88	0.21	1.5
Owner has moved out	231	0.54	3.8
Unable to locate	308	0.73	5.1
Sold	90	0.21	1.5
Damaged/Scrapped	43	0.1	0.7
Sample lost & others	117	0.28	1.9

\* Motors include cars, taxis, vans, pickup & lorries.

SUMMARY OF RESULTS

Table 22 : Motorcycle

Motor Cycles	Number	% of Total Population	% of Initial Sample
Number of motorcycle in Study Area	44289	100	-
Initial sample	6218	14.0	100
Sample interviewed	4280	9.70	68.80
Notification letter returned	354	0.80	5.70
Refused to answer	32	0.07	0.50
Owner has moved out	180	0.41	2.9
Unable to locate	264	0.60	4.20
Sold	41	0.10	0.66
Damaged/Scrapped	43	0.10	0.69
Sample lost & others	277	0.63	4.50

REASON FOR NOTIFICATION LETTER TO BE RETURNED

Reasons	Motor Vehicle	Motor Cycle	Total	%
No such route	10	-	10	1.2
No such village	-	2	2	0.2
No such number	116	69	185	21.9
No such name (unknown)	174	125	299	35.5
Transfer	87	31	118	14.0
Incomplete address	55	53	108	12.8
Vacant/Burnt house	11	5	16	1.9
Isolated area	1	3	4	0.4
Dead/Others	36	66	102	12.1
Total	490	354	844	100%

Table 23

CONFIRMATION OF SAMPLE SIZE

Table 24 : Confirmation of Sample Size

	Motor Car	Motor Cycle	Total
Total Nos. of Vehicle in Study Area	42441	44289	86730
Number of Sample Interviewed	5443	4280	9723
Number of Taxi Interviewed	82	-	82
Total Interviewed	5525	4280	9805
Sample Size (%)	13.0	9.7	11.3

FINAL RESULT

Type of Vehicle	Target Sample Collection		Actual Sample Collection	
	Number	Percentage	Number	Percentage
Motor cars	4456	10.5%	5443	12.8%
Motor cycle	4562	10.3%	4280	9.7%
Total	9018	10.4%	9723	11.25%

Table 25

From the final result it can be seen that the total sample collected was 11.25% which exceed the target collection rate of 10.4%. As for motorcycle the collection rate is only 9.7%. This is due to result of the change over of ownership as shown in Table 20 and upon checking the sample size of motorcycle is still within the confident limit of 90%.

5 BRIEF OUTLINE OF DATA PROCESSING

5.1 Introduction

Data processing by a computer is divided into 2 parts, that is analysing the existing traffic flow conditions based upon the surveys conducted and to forecast future traffic flows which will be calculated by using both the results of the analysis of the existing conditions and by considering some future changes like population changes, land use patterns, improvements of traffic conditions, etc.

In this case the former which is the analysis of the existing conditions will be dealt with and it is the most important in this procedure in order to get the Origin-Destination Tables called O-D Tables which show movements of vehicles among the zones.

5.2 O-D Table

The traffic flow shown in the O-D Tables are for movements among zones for both inside and outside of the study area. Refer to the table below.

Figure 17 : Example of O-D Table

		Zone No. j					
		0	1	2	---	n	total
Zone no. i	1				⋮		$T = \sum_{j=1}^n t_{ij}$
	2				⋮		
	⋮				⋮		
	n				⋮		
total					⋮		$T_j = \sum_{i=1}^n t_{ij}$

Here,  $t_{ij}$  means the number of a particular vehicle movement which starts at zone  $i$  and arrive at zone  $j$ .

$T_i = \sum_{j=1}^n t_{ij}$  means the total number of vehicles which start or are generated from zone  $i$ , and also  
 $T_j = \sum_{i=1}^n t_{ij}$  means the total number of vehicles which arrive or are attracted to zone  $j$ .

It is possible to have many types of O-D Tables as for example tables in which the movement of a particular type of vehicles is charted or tables where the trip purpose of the vehicles are charted.

It is very useful to prepare these tables for they can be used for the purpose of analyzing the existing conditions.

Information on the zones that have the highest number of vehicles, the types of vehicles, their origin and thus their destinations, their trip purpose etc., can all be obtained from these tables. These information is important in the designing of measures for improving existing traffic conditions.

In the process of traffic assignment to road network, data from the O-D Table is used. Since O-D Table only shows the number of trips from zone  $i$  to zone  $j$ , we will not know which road is selected for the trip from zone  $i$  to  $j$ .

Traffic assignment is the process of finding the path which is taken by a driver and the forecast of the traffic volume along a particular section of a particular road.

The calculation is made by using the route where the time taken to travel between zone  $i$  and  $j$  on the distance between these zones is lowest.

### 5.3 Relationship between the O-D Table and each Survey

An O-D Table which shows all the movements of all types of vehicles both inside and outside of the study area can be derived from the result of each survey that have been done.

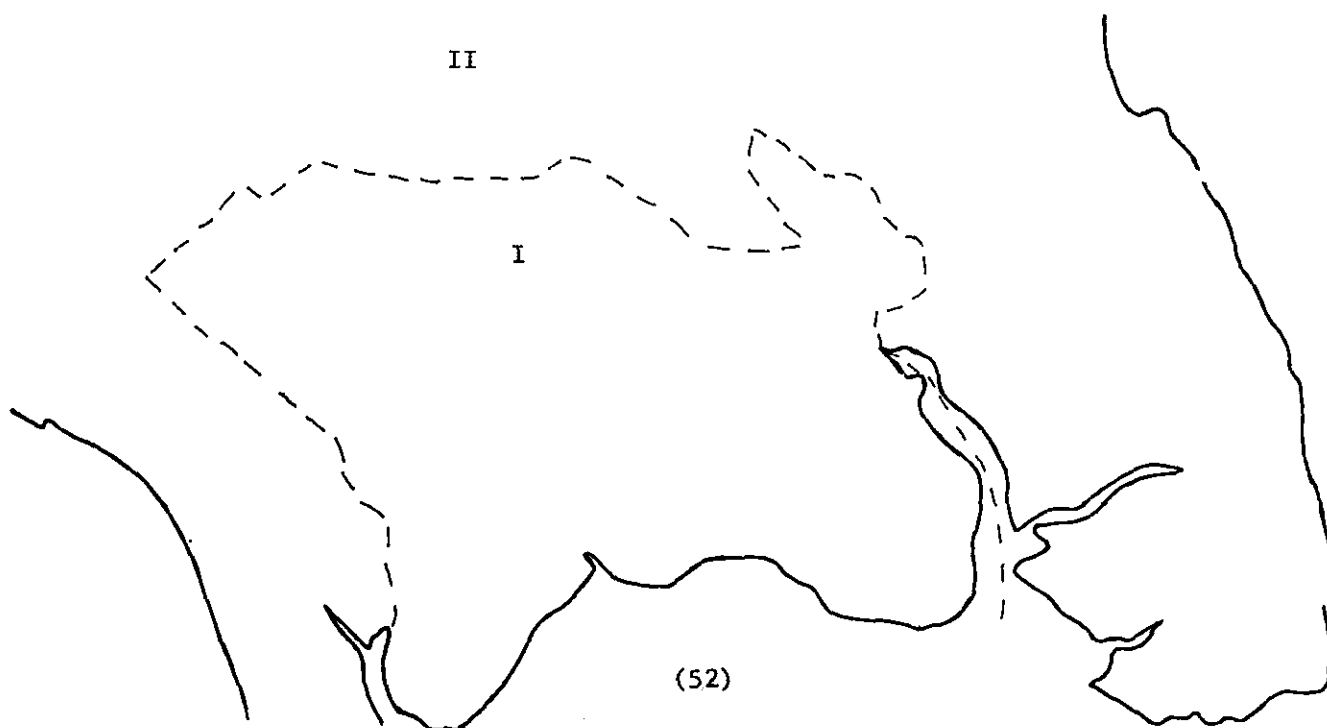
The following figure shows the relationship between an O-D Table and each survey and how each survey is tabulated.

As an example, the Owner-Interview Survey is used. The data from this survey is used to analyse the movements ie. the origin and destinations of vehicles inside the primary study area of I.

In fact the data from the Owner-Interview Survey include movements of vehicles within the primary Study Area I and from Study Area I to zones out of the study area because the survey traces the movements taken for a day by vehicles.

Therefore in the O-D Table, only trips taken within the study area is recorded and any other trips is disregarded or double counting may occur. Then, an enlargement of the data to accomodate the population size is done.

Figure 18 : The Relationship Between O-D Table and Each Survey



Conceptualized Framework of the O-D Table

<b>O \ D</b>	I	II
I	<b>OI</b> <sub>1,1</sub>	<b>C</b> <sub>1,2</sub>
II	<b>C</b> <sub>2,1</sub>	<b>C</b> <sub>2,2</sub>

**C**: Cordon-Line Survey

**OI**: Owner-Interview Survey including taxis and buses.

Here,

$$\mathbf{C}_{1,2} = \mathbf{C}_{2,1}$$

5.4 Procedure of Flow of Data in each Survey up to the Completion of the O-D Table

The work in this topic is divided into two parts. Part 1 includes the procedure from the coding of the completed questionnaires sheets right up to obtaining the correct data. This is illustrated in the flow-chart of Figure 19.

Figure 21 shows a sample of the data collected from the Owner-Interview Survey which was checked by computer and errors are indicated at the end of the sheet in terms of wrong zone, time error and wrong combination of zones or by \* sign where it is incorrectly filled.

Part 2 includes the procedure of obtaining the necessary O-D Tables by using the correct data, and Figure 20 shows the flow-chart of Owner-Interview Survey.

Figure 19 : Flow Chart of Data Checking

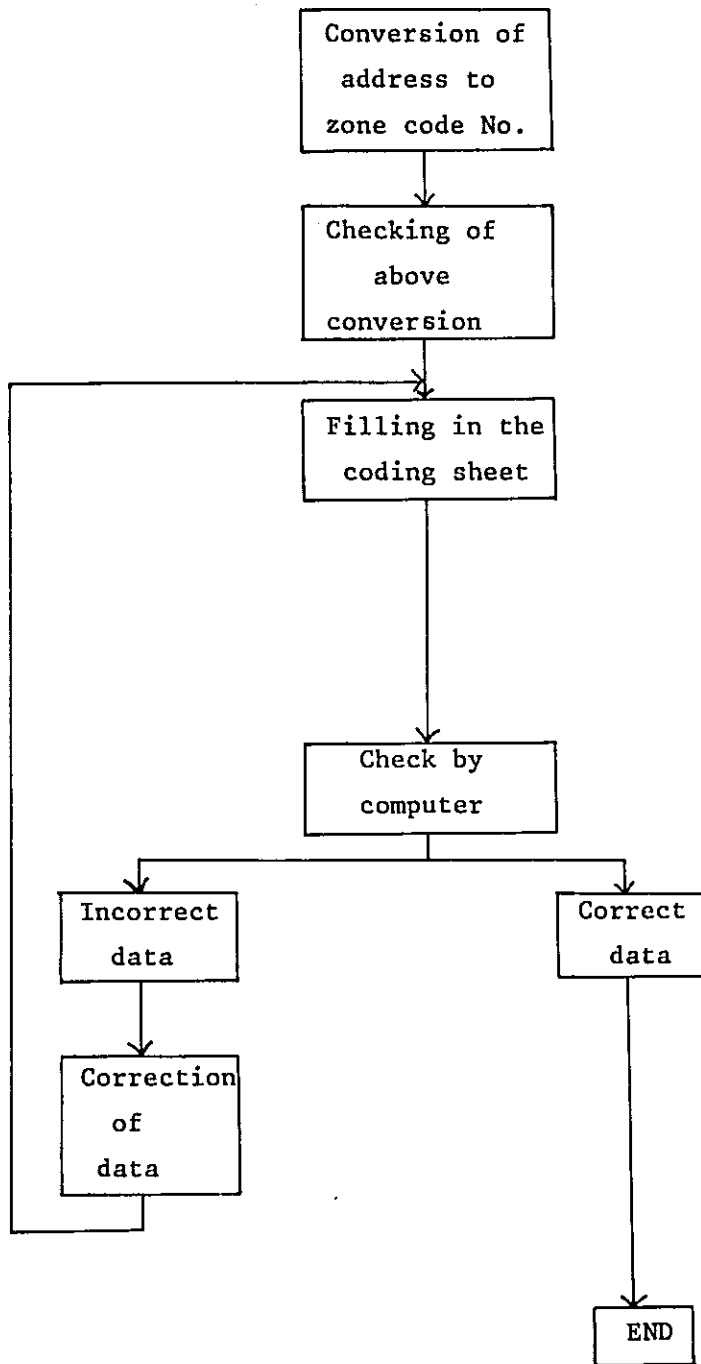
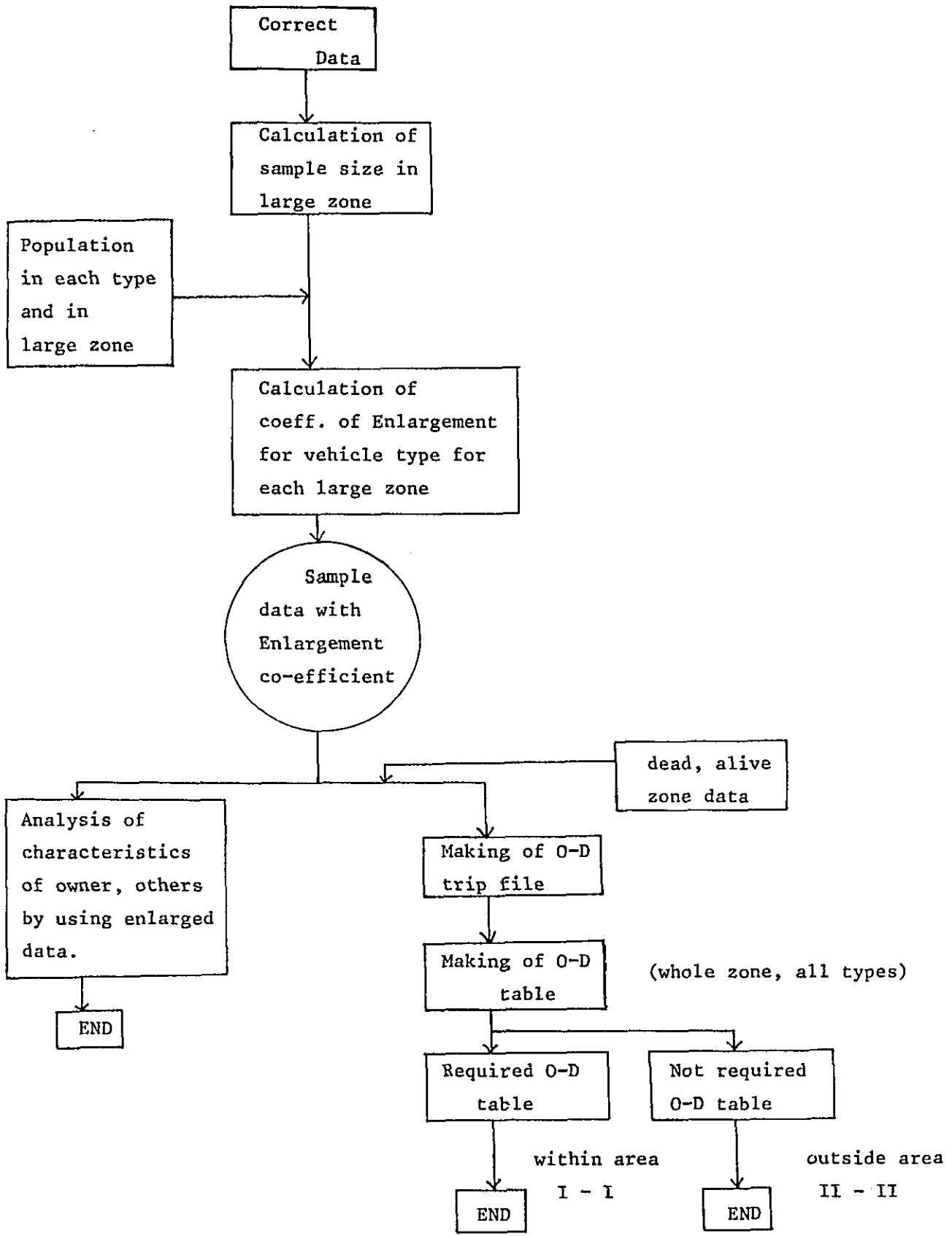




Figure 20 : Flow Chart of making O-D Table in the case of Owner Interview Survey



SEQUENCE-NO	954 JK	955 JK	956 JK	957 JK	958 JK	959 JK	960 JK	961 JK	962 JK	963 JK	964 JK
VEH REG.	9336	9349	9488	9605	9633	9690	9729	9872	9881	9917	9920
NJ.											
SHEETS NO	1	1	1	1	1	1	1	1	1	1	1
(1)ADUS	424	121	424	422	242	351*	451	453	242	411	332
(2)OWNEF	1	1	1	1	1	1	1	1	1	1	1
(3)SLA	1	1	1	1	1	1	1	1	1	1	1
(4)AGE	4	4	4	3	3	4	4	2	3	3	2
(5)NU H-H	7	7	6	6	7	6	6	6	9	7	6
(6)JCCURT	5	0	3	6	8	4	6	5	0	9	0
(7)INCLME	3	5	3	4	5	5	3	0	4	3	3
(8)T VEHL	6	1	2	6	1	1	6	1	1	6	6
(9)TJNS	0	0	0	0	0	0	0	0	0	0	0
(9)GAL	0	0	0	0	0	0	0	0	0	0	0
(10)IT FRM	0	0	2	0	0	0	0	0	0	0	0
(11)P LMN	0	4	4	4	3	4	4	3	4	4	2
(12)ILST	0	4	8	0	5	7	0	8	3	8	9
(13)S-EMP	0	3	1	0	0	6	6	0	2	0	0
(14)W-AD	0*	121	424	422	0*	451	451	453	352	0*	212
(15)MILG	10	15	15	4	40	8	10	68	10	64	12
(16)FKWC	5	5	5	5	5	5	5	5	5	2	5
(17)KACE	1	2	2	1	1	2	1	1	2	1	1
NU. OF TR	2	6	2	2	4	3	6	4	2	2	4
(18)URGN	424	121	424	422	242	351	451	453	242	412	332
(19)U-HR.	6	1	8	12	10	6	7	6	8	8	8
(19)D-PN.	0	1	0	0	3	4	0	0	0	0	0
(20)DESTN	424	113	424	422	114	252	451	262	352	112	332
(21)A-HR.	6	1	8	12	10	7	7	6	8	10	8
(21)A-PN.	3	1	1	3	5	1	0	4	3	0	0
(22)PJFPS	1	3	4	9	9	2	2	9	1	3	3
(23)F-LES	1	2	2	2	1	5	5	9	2	1	2
(24)T-FAR	0	1	5	4	2	1	1	3	1	3	4
(24)PR-CR	0	2	2	2	1	2	2	1	2	2	2
(25)UCPNT	1	2	3	1	2	3	2	3	1	1	1
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0
(18)URGN	0	121	0	0	242	951	451	453	0	0	332
(19)U-HR.	0	15	0	0	16	16	8	16	0	0	14
(19)D-PN.	0	0	0	0	2	3	0	0	0	0	4
(20)DESTN	0	341	0	0	262	351	451	453	0	0	212
(21)A-HR.	0	15	0	0	16	17	0	17	0	0	14
(21)A-PN.	0	3	0	0	3	4	0	0	0	0	5
(22)PJFPS	0	3	0	0	9	4	1	8	0	0	1
(23)F-DES	0	2	0	0	9	0	7	6	0	0	1
(24)T-PAR	0	1	0	0	1	5	1	1	0	0	3
(24)PR-CR	0	2	0	0	2	2	2	2	0	0	2
(25)UCPNT	0	2	0	0	3	2	2	1	0	0	1
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	2	0	0	0	0	0	0	0	0	0
(18)URGN	0	341	0	0	262	9	451	453	0	0	212
(19)U-HR.	0	16	0	0	17	0	12	17	0	0	23
(19)D-PN.	0	1	0	0	2	0	3	3	0	0	4
(20)DESTN	0	121	0	0	242	0	451	453	0	0	332
(21)A-HR.	0	16	0	0	18	0	12	19	0	0	23
(21)A-PN.	0	4	0	0	4	3	0	0	0	0	1
(22)PJFPS	0	1	0	0	4	4	4	4	0	0	4
(23)F-DES	0	2	0	0	0	0	0	0	0	0	0
(24)T-PAR	0	1	0	0	5	5	5	5	0	0	5
(24)PR-CR	0	2	0	0	2	2	2	2	0	0	2
(25)UCPNT	0	2	0	0	1	6	2	1	0	0	1
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0
(18)URGN	0	121	0	0	0	0	451	0	0	0	0
(19)U-HR.	0	17	0	0	0	0	13	0	0	0	0
(19)D-PN.	0	0	0	0	0	0	0	0	0	0	0
(20)DESTN	0	111	0	0	0	0	451	0	0	0	0
(21)A-HR.	0	17	0	0	0	0	13	0	0	0	0
(21)A-PN.	0	3	0	0	0	0	0	0	0	0	0
(22)PJFPS	0	1	0	0	0	0	0	0	0	0	0
(23)F-DES	0	0	0	0	0	0	0	0	0	0	0
(24)T-PAR	0	1	0	0	0	0	0	0	0	0	0
(24)PR-CR	0	2	0	0	0	0	0	0	0	0	0
(25)UCPNT	0	2	0	0	0	0	0	0	0	0	0
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0
(18)URGN	0	311	0	0	0	0	451	0	0	0	0
(19)U-HR.	0	18	0	0	0	0	13	0	0	0	0
(19)D-PN.	0	0	0	0	0	0	0	0	0	0	0
(20)DESTN	0	121	0	0	0	0	451	0	0	0	0
(21)A-HR.	0	18	0	0	0	0	13	0	0	0	0
(21)A-PN.	0	4	0	0	0	0	0	0	0	0	0
(22)PJFPS	0	1	0	0	0	0	0	0	0	0	0
(23)F-DES	0	1	0	0	0	0	0	0	0	0	0
(24)T-PAR	0	1	0	0	0	0	0	0	0	0	0
(24)PR-CR	0	2	0	0	0	0	0	0	0	0	0
(25)UCPNT	0	2	0	0	0	0	0	0	0	0	0
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0
(18)URGN	0	311	0	0	0	0	451	0	0	0	0
(19)U-HR.	0	18	0	0	0	0	13	0	0	0	0
(19)D-PN.	0	0	0	0	0	0	0	0	0	0	0
(20)DESTN	0	121	0	0	0	0	451	0	0	0	0
(21)A-HR.	0	18	0	0	0	0	13	0	0	0	0
(21)A-PN.	0	4	0	0	0	0	0	0	0	0	0
(22)PJFPS	0	1	0	0	0	0	0	0	0	0	0
(23)F-DES	0	1	0	0	0	0	0	0	0	0	0
(24)T-PAR	0	1	0	0	0	0	0	0	0	0	0
(24)PR-CR	0	2	0	0	0	0	0	0	0	0	0
(25)UCPNT	0	2	0	0	0	0	0	0	0	0	0
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0
(18)URGN	0	311	0	0	0	0	451	0	0	0	0
(19)U-HR.	0	18	0	0	0	0	13	0	0	0	0
(19)D-PN.	0	0	0	0	0	0	0	0	0	0	0
(20)DESTN	0	121	0	0	0	0	451	0	0	0	0
(21)A-HR.	0	18	0	0	0	0	13	0	0	0	0
(21)A-PN.	0	4	0	0	0	0	0	0	0	0	0
(22)PJFPS	0	1	0	0	0	0	0	0	0	0	0
(23)F-DES	0	1	0	0	0	0	0	0	0	0	0
(24)T-PAR	0	1	0	0	0	0	0	0	0	0	0
(24)PR-CR	0	2	0	0	0	0	0	0	0	0	0
(25)UCPNT	0	2	0	0	0	0	0	0	0	0	0
(26)JMDT	0	5	0	0	0	0	0	0	0	0	0
(26)A-CMD	0	1	0	0	0	0	0	0	0	0	0



5.5 Items Analysed from  
the Existing Traffic  
Conditions

The output which is derived from the analysis  
of the existing traffic conditions is as follows:-

- a) O-D Table  
O-D Tables for each type of vehicles.  
O-D Tables for each trip purpose.  
O-D Tables for all types of vehicles and for  
all purposes.
- b) Analysis of the characteristics of owners of  
cars and motorcycles.  
Number of each type of vehicles in each zone.  
Form of ownership, sex, age and occupation of  
owners. Distribution of working place of  
owners. Average mileage and average number of  
each type of vehicles used in each zone.
- c) Analysis of trip movements.  
Number of origin trips and destination trips  
that end in each zone.  
Number of each type vehicles and trip purpose  
of each. Mean value of trip movements made a  
day for each type of vehicle.  
Variations in the number of trips for every  
hour, for every zone and for every type of  
vehicles.
- d) Others  
Meantime required to travel between zones for  
each type of vehicle.  
Number of passengers in each type of vehicle.  
Analysis of parking places.  
Analysis of types of commodities carried.  
Others.

PART 2  
INTERVIEWERS' IMPRESSION

PART 2

6 INTERVIEWERS' IMPRESSIONS

6.1 Outline

This reports aims at analysing the impressions of the interviewers involved in the vehicle owner interview survey. This is particularly important because the interviewers, acting as the direct linkage or the in-between of the survey project and the object of the study serves as a valuable source of information regarding the following:-

- a. Survey Material
  - i) the questionnaire
  - ii) manual of owner interview
  - iii) the briefing/training that they attended
- b. The actual survey in terms of
  - i) the interviewee's response
  - ii) the locating of the interviewee's homes
- c. Their remuneration/payment
- d. The problems faced by interviewers

6.2 Findings - General

6.2.1 Sex Composition

Male	Female	Total
94	59	153

Out of the 153 interviewers involved in the vehicle owner interview survey only 73 worked throughout the five weeks period. The others come and go for various reasons.

### 6.2.2 Qualification

Qualification	Number of Interviewers
LCE/SRP	29
MCE/SPM	120
HSC/STP	4
Total	153

### 6.2.3 Number of Questionnaire Completed

This section is based only on the number of interviewers who worked throughout the five weeks period.

GRAPH OF COMPLETED QUESTIONNAIRE  
AGAINST NO. OF INTERVIEWERS (%)

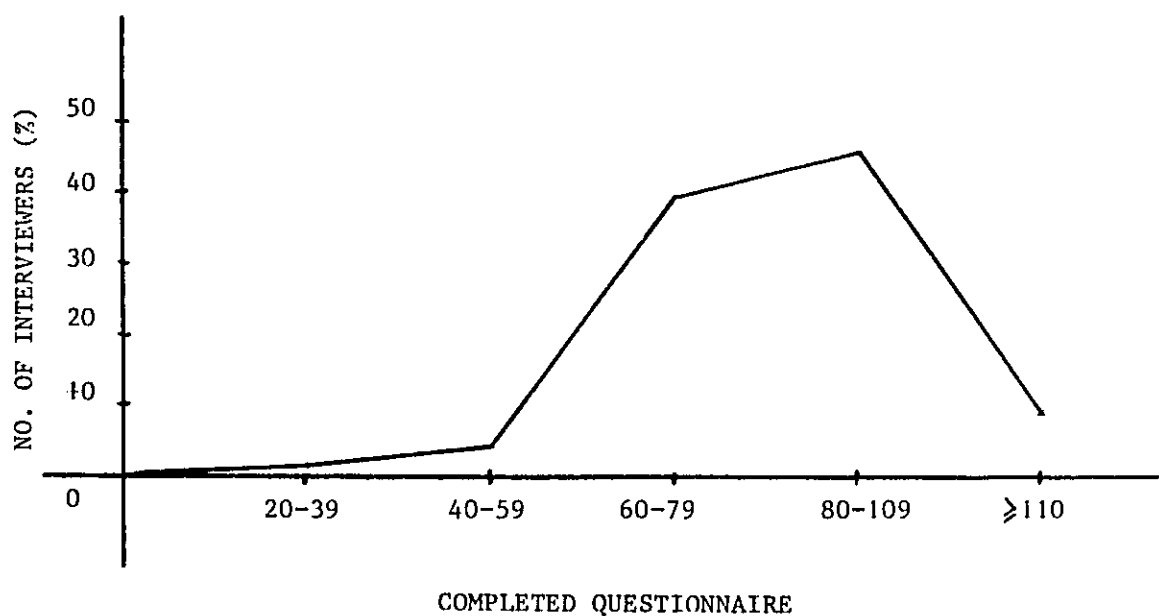


Fig. 22

The graph indicates that majority of the interviewers completed an average of 95 samples throughout the survey period which means that the average collection rate for an interviewer is about 80%.

6.2.4 Form of Transport

Mode of Transport	Number	Percentage
On foot	2	1.4
Motorcycle	32	23.2
Car	7	5.1
Taxi/on foot	5	3.6
Bus/on foot	92	66.7
Total	138	100

When conducting the interview most of the interviewers commute by bus to the given zone and their walk to the given addresses to meet the owner. Since bus is the main mode of transportation, difficulties were met by interviewers who have to go to some rural areas which were not served by public transport.



This problem is finally solved by sending the supervisors to these area using the office car and the result was very satisfactory.

**6.2.5 Rate of Collection**

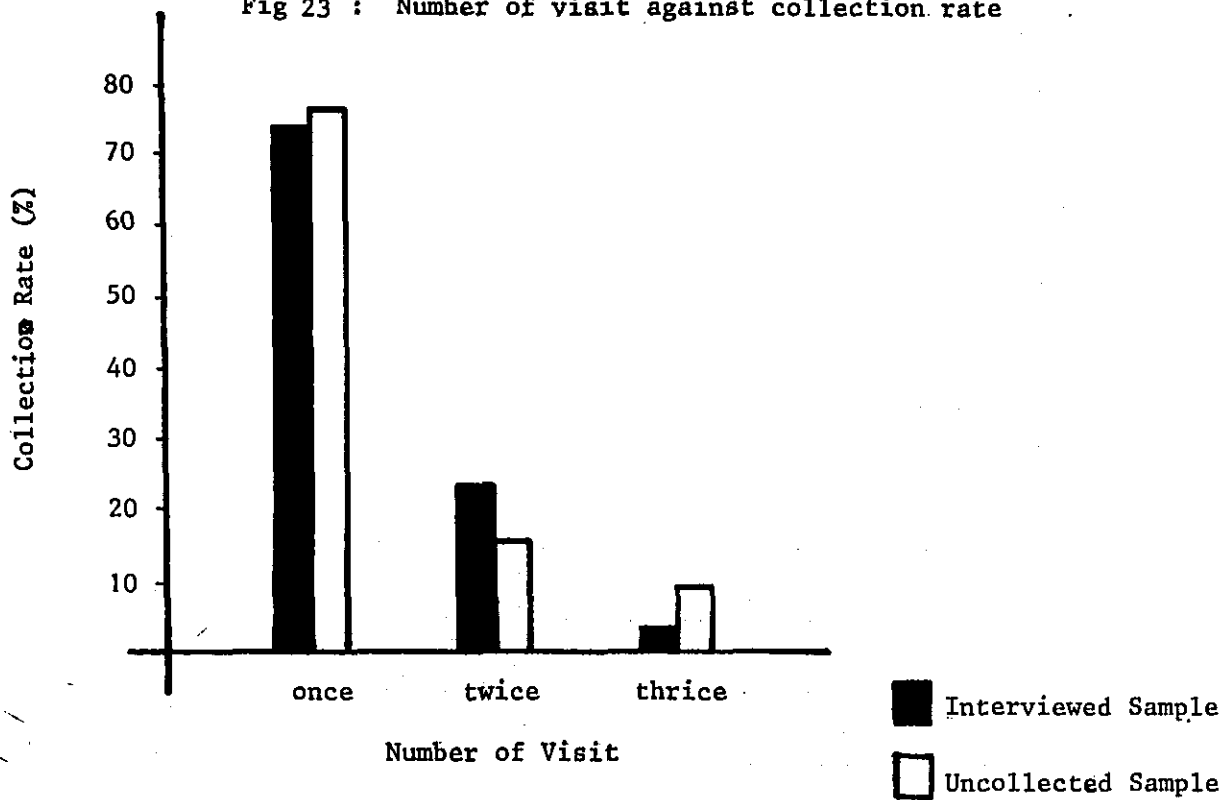
Throughout the survey period the interviewers were given 24 name of car owners per weeks to be visited and interviewed. The interviewers must meet these owners in order to interview them. There are occasions when during the first visit, the owner is not at home. Call backs are encouraged and information on how many visits made to meet these owners are recorded before he is finally interviewed. The time of visit is also recorded.

**RATE OF COLLECTION**

No. of visit	Once		Twice		Thrice		Total	
	No.	%	No.	%	No.	%	No.	%
Interviewed Sample	6950	73.8	2113	22.4	356	3.8	9419	100
Uncollected Sample	1293	75.8	263	15.4	150	8.8	1706	100
Total	8243		2376		506		11125	

Table 26

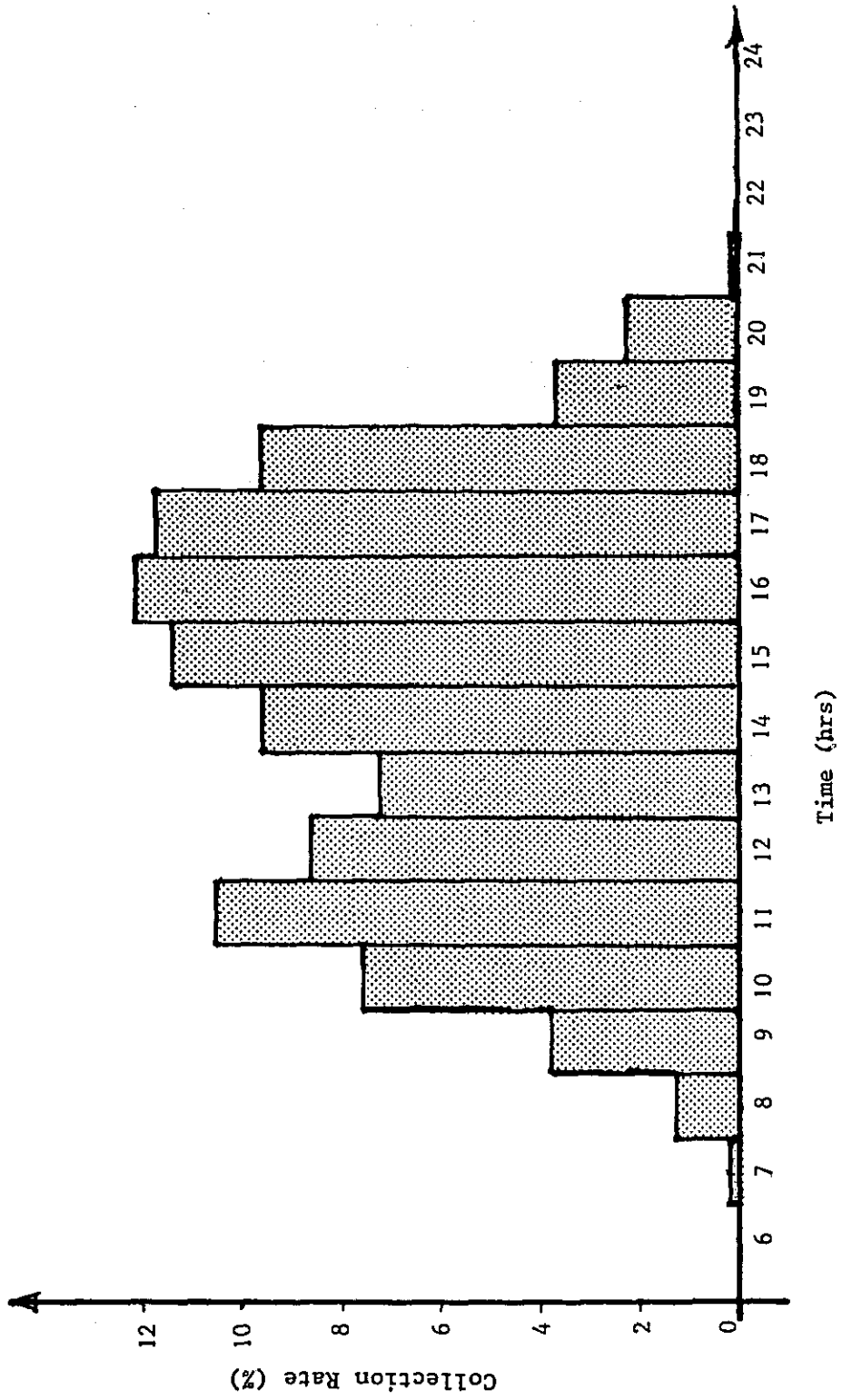
Fig 23 : Number of visit against collection rate



The charts (Fig.23 & Fig.24 ) indicates that of the total sample interviewed 73.8% were conducted during the first visit made to the owners and most of these interviews were made between 10 a.m. to 12.00 noon and 3.00 p.m. to 6.00 p.m.

The morning peak maybe attributed to the fact that respondents are easily located at home on the interviewers' rounds. The evening collection peak of 5 - 6 p.m. may be attributed to the fact that respondent have just arrived back home.

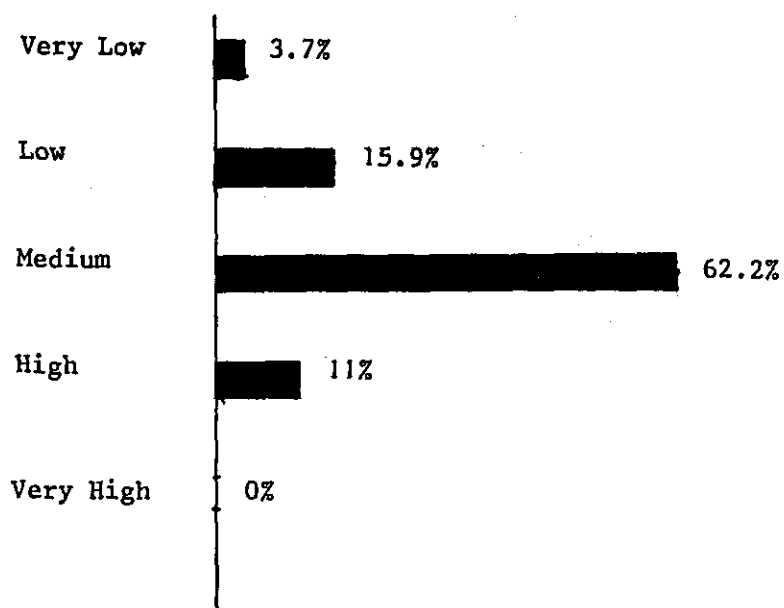
Fig 24 : Chart of Collection Rate (%) against time (hrs).



### 6.2.6 Payment

Of the total number of enumerators employed 62.2% of them felt that the payment is average and 3.7% felt that it is too low.

Fig.25 : Impression on Rate of Payment



### Best Payment per Piece of Questionnaire

When requested to indicate what they felt is the appropriate payment of per piece of questionnaire, the respond is as shown in Fig 25. About 55.4% felt that the payment of \$3.00 per piece is justified though there are 4.6% of them who felt that the payment should be between \$8.00 to \$9.00

Price per Questionnaires	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00	\$8.00 - \$9.00
Percentages of Interviewers	7.6	55.4	12.3	16.2	3.8	4.6

### 6.3 Problems Faced by Interviewers During the Survey Period

The interviewers in carrying out their work encountered some problems and these are:-

#### 6.3.1 Difficulty in locating the samples

This problem, does not only include difficulty due to wrong sampled address or name which had been copied from R.I.M.V. records but also the interviewer had to pay several visits to the sampled houses because the interviewee was not at home when the interviewer visited him/her. Very often this means that the interviewers had to suit the respondents' convenience by coming at an appointed time either very early at 7 a.m. before the interviewee goes to work or after he comes back from work at night. Another great difficulty faced is the difficulty of locating due to the unorganised and unsequential physical location of the sampled address. This problem is commonly encountered in rural areas and unplanned squatter settlement where the houses had sprouted up in haphazard arrangement.

#### 6.3.2 Language communication problem

This is especially so in rural areas where the Chinese speak only Chinese. Since the notification letters were written only in Malay, the non-Malays especially the Chinese who could not read Malay were inclined to be uncooperative.

#### 6.3.3 Hostile public response

As the questionnaires included some questions of relational occupation, many interviewees thought that the survey was for the income tax department and not for the Economic Planning Unit which it really was for.

6.3.4 Unfavourable weather with rain pouring down almost everyday.

6.3.5 The interviewers impression on their experiences are as shown in the charts below:-

From chart Fig. 26 it can be seen that in general the car owners who live outside MPJB ie. the suburban or rural areas are friendlier than those who live in town centre.

In locating the car's owner house, it is generally more difficult to do so in the rural areas as 48.4% felt that it is difficult while 19.35% felt that it is very difficult.

INTERVIEWERS' IMPRESSIONS FOR LOCATING THE OWNER'S HOUSE

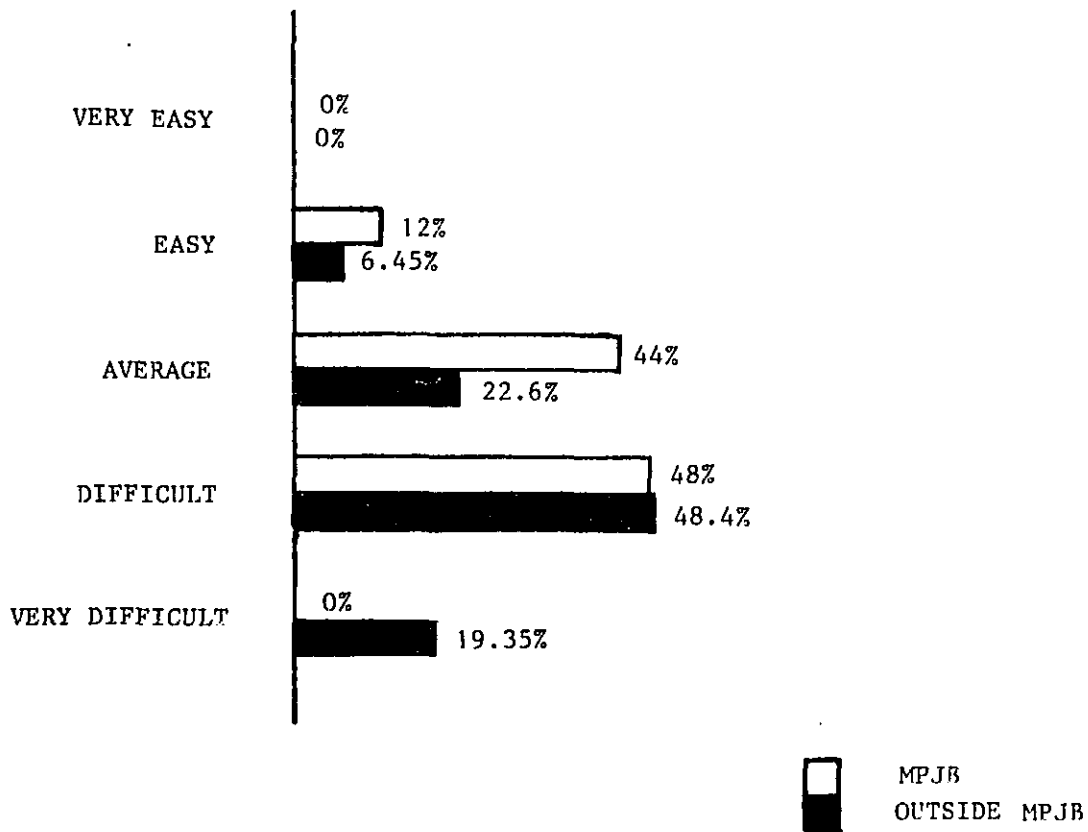


Fig. 26

6.4 Impressions on the Manual, the Explanation and the Layout of the Questionnaire

6.4.1 Understanding the concept of the survey and the importance of the accuracy of the data collected is an important deciding factor which will initiate interviewers to do their work satisfactory. To ensure that they fully understood the survey, the 'Car Owner Interview Manual' was prepared and briefing sessions were held to stress the several finer points that is necessary to attained the satisfactorily result.

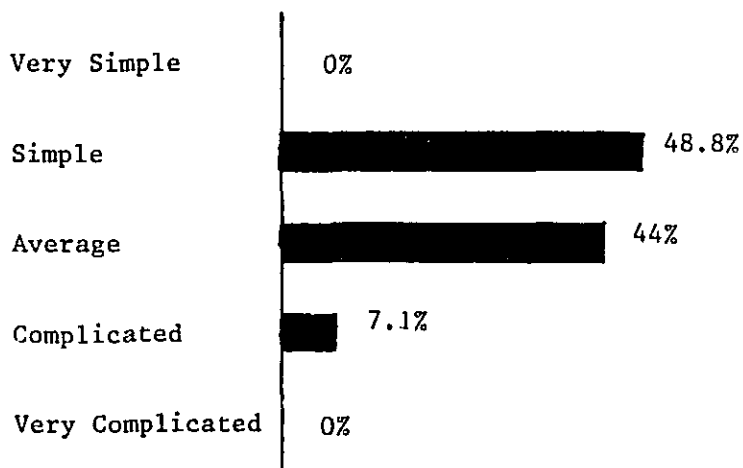
Interviewers impression about the manual and the briefing sessions are as shown in Fig. 27 and Fig. 28

A majority of them felt that the manual was easily understood and the explanation easy to comprehend.

6.4.2 The Layout of the Questionnaire Item is always an important factor in any survey. It must be easily understood and should not be ambiguous. A simple yet concise questionnaire is best for the comprehension of the general public.

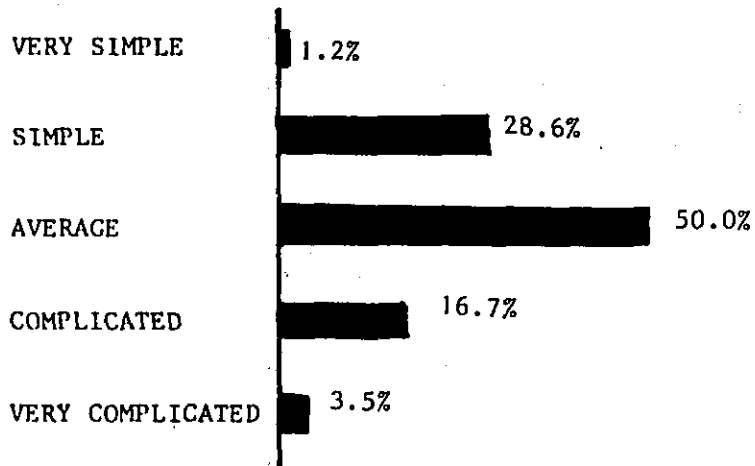
Since the interviewers will have to fill in these questionnaire on most occasion their opinions were seeked:-

Figure 27 : Impression about Questionnaire

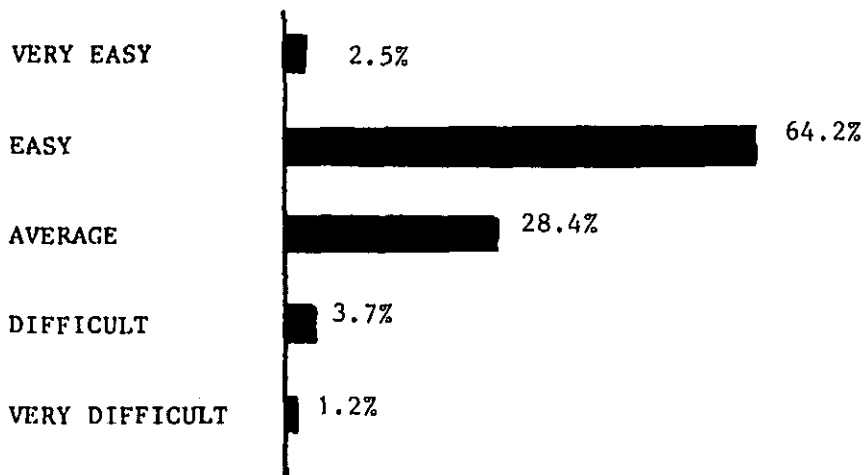


Most of them felt that the questionnaires are average or simple to understand and easy to complete.

FIGURE 28 IMPRESSION ABOUT THE MANUAL



IMPRESSION ABOUT THE EXPLANATION





INTERVIEWERS' IMPRESSIONS FROM INTERVIEWER.

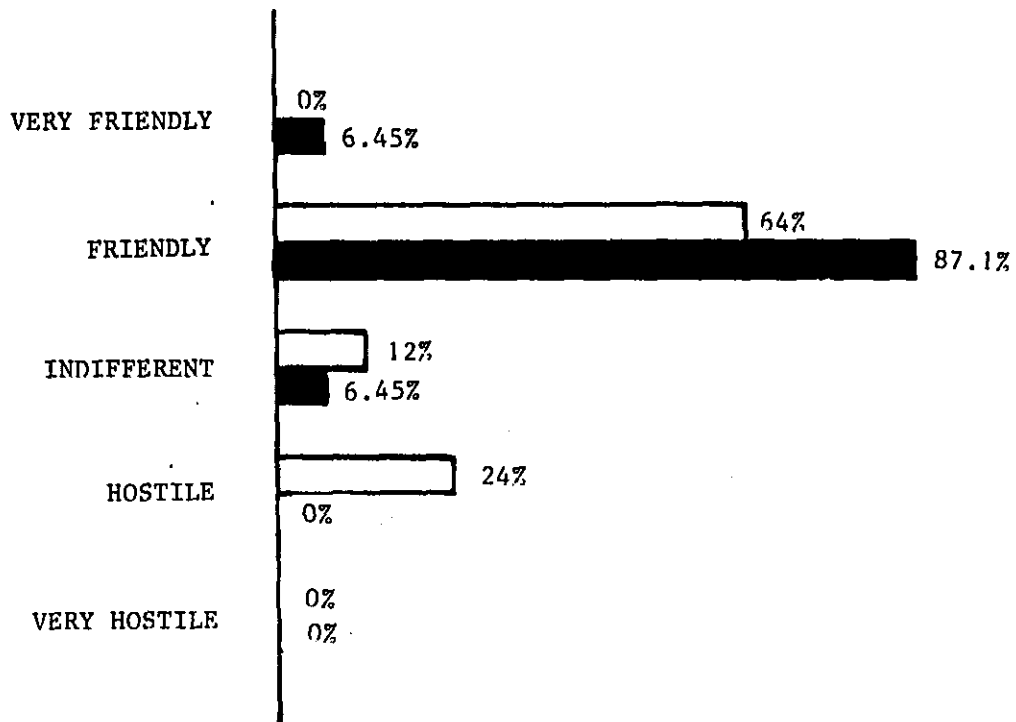


Fig. 29

**Appendix I**

**CAR OWNER INTERVIEW SURVEY**

**MANUAL**

## 1.0 INTRODUCTION

**1.1 Purpose of the Study**        The purpose of the study is to formulate a transport master plan comprising policies and short-term, as well as long-term, transport development plans. In this connection, the Vehicle Owner Interview Survey is planned in order to obtain the facts of existing conditions concerning vehicular travels of vehicle owner in Study Area

**1.2 Study Area**                    The Study Area of the Vehicle Owner Interview Survey covers Johor Bahru District with Kota Tinggi Town and part of Ulu Sungai Johor.

**1.3 Vehicle Owners  
to be Interviewed**                The vehicle owners to be interviewed are selected by random sampling method from the registration cards in RIMV. The total number of vehicle owners in the Study Area in 1981 is estimated at 160,000 vehicles of which approximately 60,000 are motor-cars (including lorries and buses) and 100,000 are motor-cycles.

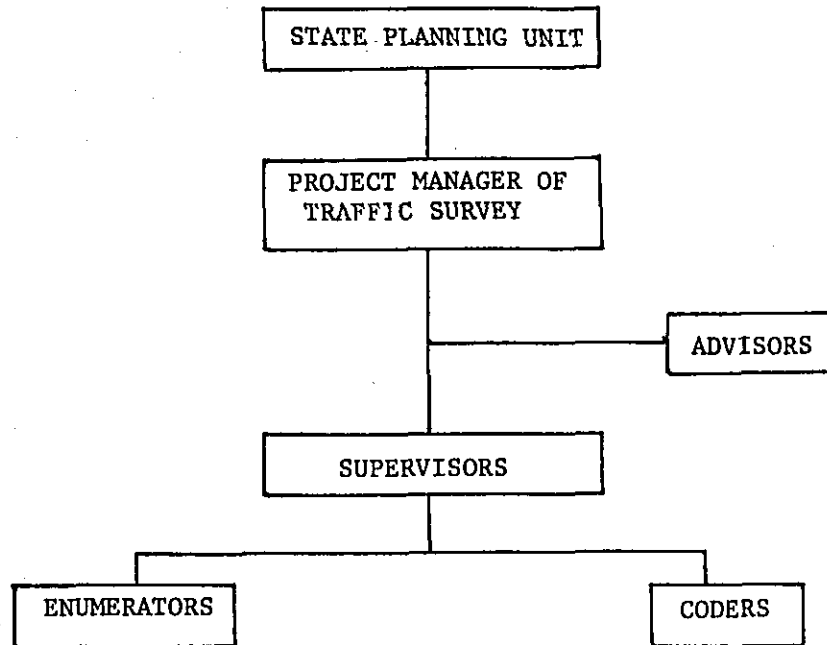
**1.4 Survey Implementation**       This survey is undertaken by the State Planning Unit (SPU) with close cooperation of Highway Planning Unit (HPU) and Road Transport Department (RTD).

**1.5 Survey Period  
and Day**                            The survey starts on Sept. 5, 1981 and ends on Sept. 30, 1981. The survey days are Mondays, Tuesdays and Wednesdays excluding National Holidays.

2.0 GENERAL MATTERS ON THE  
OWNER INTERVIEW SURVEY

2.1 Organisation of the  
Survey

The organisation of the survey will be as follows:-



Therefore, you are to perform your duties under the direct supervision of the Supervisors. All problems that you may encounter during interview survey must be reported and discussed with him. Weekly attendance reports are to be submitted to Supervisors.

2.2 Matters that

Interviewers must  
take note

- a. You should bring your I.D. Card while you are conducting the owner interview survey.
- b. Informations obtained from interviewees during interview periods must be strictly confidential and must not be shown to any other persons except the Supervisors.
- c. When you explain to the interviewees regarding the interview survey, you should explain that this survey data gathered is only used for transport master planning and is not used for the purposes of taxation, investigation or law enforcement procedures. Refer them to the letter from the State Planning Unit (SPU).

2.3 Material to be  
supplied for the  
Interview Survey

The following materials will be supplied through  
Supervisors:

- a) Owner interview manual
- b) Owner interview forms
- c) I.D. .card
- d) Pencil

2.4 Standard Schedule

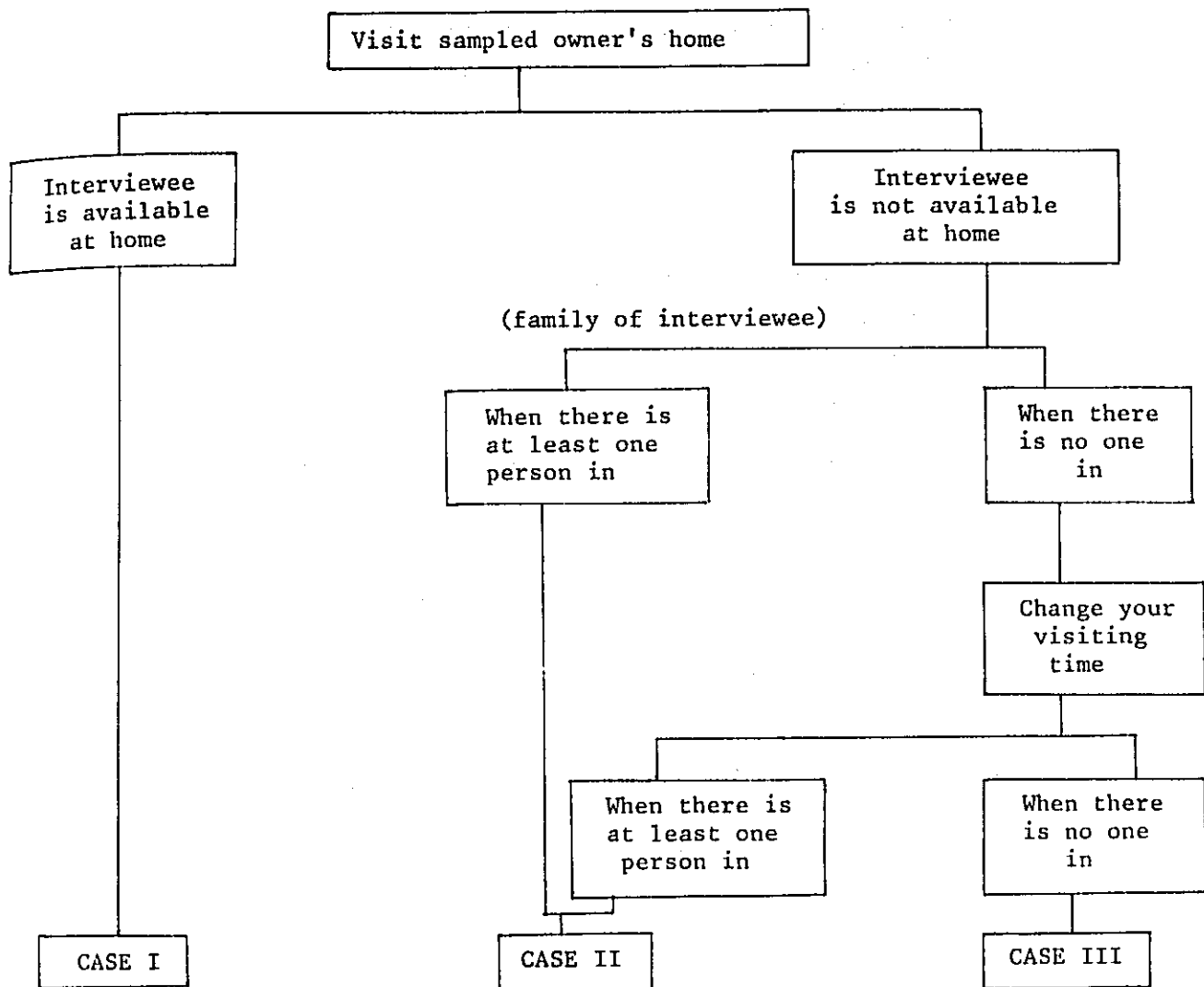
for Implementation The standard schedule to implement the Owner Interview  
survey is as follows:

	Survey Date	Distribution & Collection	Submission of Interview Form
Sunday		o	o
Monday	o	o	
Tuesday	o	o	
Wednesday	o	o	
Thursday		o	
Friday	Holiday		
Saturday		o	

3.0 HOW TO INTERVIEW

3.1 For private  
individual  
ownership

In the course of your work, when you call on the  
sampled owner's home, you will be faced with various  
situations. In order to know what to do when different  
situations arise, the following cases are given. You  
may follow them when the situation demands it.



Case I, Case II and Case III will be explained separately.

CASE I : When the interviewee is available at home

This survey involves the routine trips made by owners on the average. As such, only Monday, Tuesday and Wednesday shall be the days to be taken into consideration.

A: In the case when the interviewer visits on Monday.

If you visit the owner before he finishes making the trips, than you must explain the purpose of this survey to him and how to complete the questionnaire correctly. Leave the questionnaire for him to complete

filling in the trips he made that day (Monday). Then confirm when you can come again to collect the questionnaire. You must go at an appointed time to collect it.

B: In the case when the interviewer visits on Tuesday, Wednesday and Thursday.

You must interview the previous day's movement of the sampled vehicle. But if the interviewee does not remember his movement on the previous day, you must follow the procedure as explained in A above.

CASE II : When there is at least one person available

You must find out from this person when you can meet the owner. When you have done that, you must revisit the house and interview the owner in the same manner as described in CASE I.

But if on your second visit, you are still unable to meet the owner, you may leave the questionnaire with a member of his family (exclude children and old men). You must explain to him/her the purpose of this survey and the correct method of filling in. Then confirm the exact day when you can collect the questionnaire.

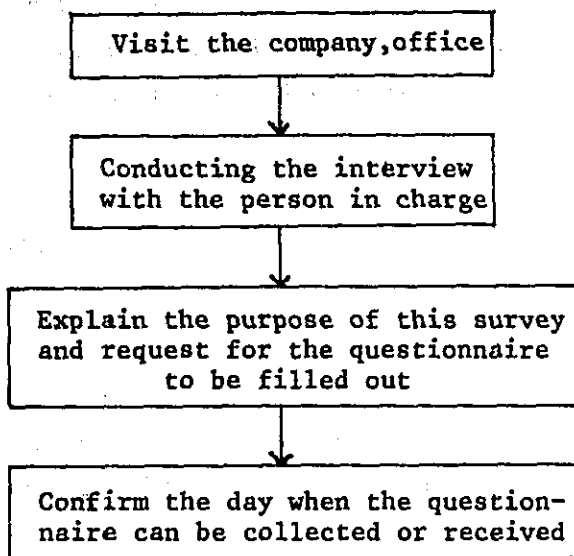
CASE III : When there is no one available

This is a special exception.

You must make efforts to meet the interviewee. But if you call on the sampled owner's home for more than 2 times and there is still no persons available, then you can change the interviewee from the original owner to next door's owner.

3.2 Ownership of company  
or government bodies

In the case when the form of holding is a company or a government body, the following procedure should be followed:-



4.0 EXPLANATION OF TERMS

4.1 Trip

The 'trip' means the route taken from the origin to the destination. This is explained by Fig. 1

EXAMPLE OF TRIP MADE - Fig. 1



In the example of Fig. 2, there are 2 trips. And the destination of the first trip is the same as the origin of the second trip.

EXAMPLE OF TRIP MADE - Fig. 2





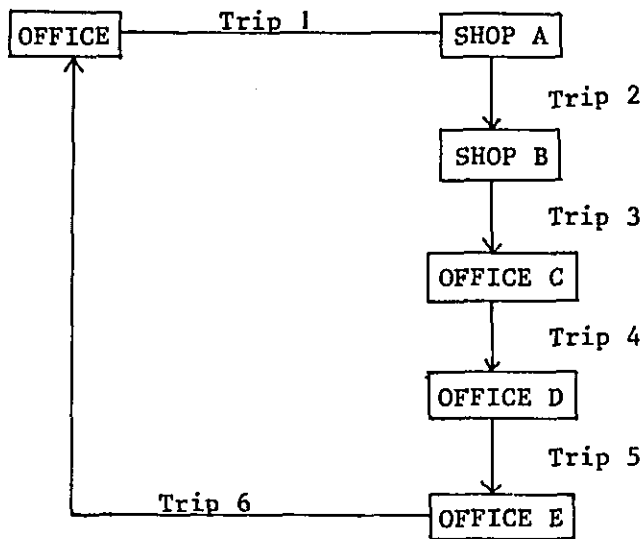
**EXCEPTIONS:**

**CASE I :** In the case of a "disjointed trip" ie. where there is a dropping off point or a collection point in the actual route taken ie. when the driver stops to drop or pick up someone on the way.

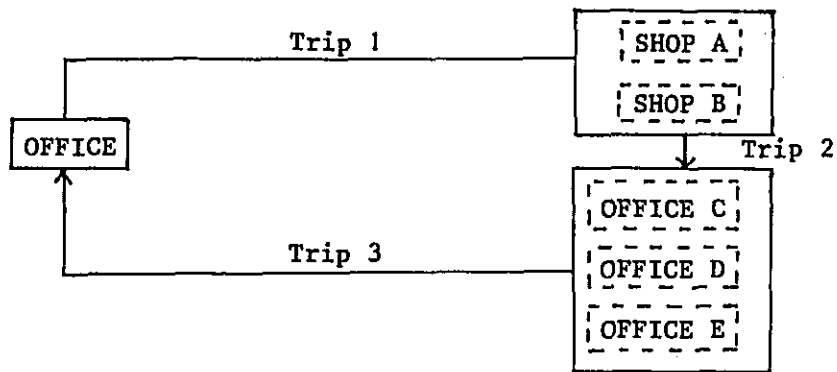
In this case, the movement is divided into 2 trips. The first trip is to school and the second trip to office.



**CASE II:** This is a case where there are many short trips taken along the route. Sales delivery is one example.

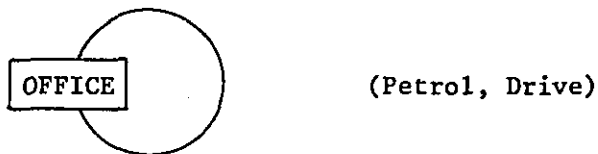


In the above case, there are 6 trips. But if Shop A and Shop B are very near to each other, and also Office C, Office D and Office E are very near, then we can change the example to the following manner.

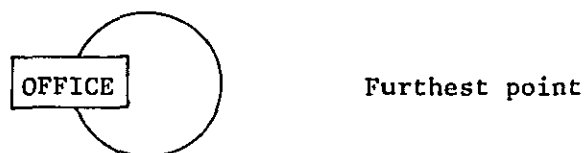


CASE III : When there is no specific destination in the route taken. This occurs when the trip has no fixed stops that is when it is circular trip.

Eg. to the petrol station or for a drive



In the above diagram, the circular trip can be considered as 2 trips. The first trip is from the office to the furthest point. The second trip is from the furthest point to the office.



CASE IV : In the case when the trips are done within the same site, that is, in an internally closed area.

Eg. in a big factory site



Factory Site

#### 4.2 Other items

##### A. Type of Vehicle

1. Motor car : two door car, four door car
2. Van : station wagon, small vans and utilities (light 2 axles)
3. Medium lorry : lorry and large van (heavy 2 axles)
4. Heavy lorry : lorry with 3 axles, trailers, tractors and tippers
5. Bus : bus, factory bus, school bus
6. Motor cycle : motor scooter, lambreta, ordinary motor cycle

##### B. Purpose

1. To work : going to working place, sending other people to work place.
2. To school : going to school including vocational school.
3. Business engagement : selling insurance, sending goods to customers, moving salesman and other business trip.
4. To home : going home from work, shopping, school, entertainment etc.
5. Shopping : going to market, shops and other shopping place for the purpose of buying rish/vegetables, clothes, household necessities, etc.
6. Recreation : going for meal at restaurant, cafe coffee house, going to cinema, nightclub, sight-seeing, picnic and games.
7. Religious purpose : going to mosque, temple, etc.
8. Social visits : social gathering, visiting relatives, going to airport and other private trip.
9. Others : other than the above purpose.

### 3. Facility of Destination

0. Residence : Home, Houses and apartments, etc,
1. Government office and Private office : Fully government officers, semi-government offices as well as private company offices.
2. Retail and wholesale shops : Retail shop, wholesale shop, hotel and entertainment place and restaurant.
3. Factory : Manufacturing factory including light and heavy industries.
4. Transport Facilities : Marine port, airport, bus terminal, warehouse etc.
5. Educational Institution : Schools, private institution library, etc.
6. Religious and Social Institution : Mosque, temple, church, etc.
7. Agricultural : Cultivated agricultural land, forest land.
8. Park/ Recreation : Park, swimming pool, playground, seaside, etc.
9. Others : Other than the above facilities.

### Occupation

0. Administrative and Managerial : Legislative official and government administrators, managers except in farming, agriculture, commerce and catering.
1. Professional, Technical & related workers : Physical scientists and technicians. Architects, engineers, surveyors and related professionals. Aircraft and ships' officers. Medical doctors, surgeons, dentists and other medical

officers and assistants.

Veterinary assistants and related workers. Statisticians, mathematicians, system analysts and related technicians.

Economists, Accountants. Jurist-Lawyers, judges, and other legal officers.

University, Higher Education, Secondary and Primary School teachers.

Authors, Journalists and related workers. Sculptors, photographers, creative artists, composers

Professional athletes and sportsman.

2. Clerical and : Clerical supervisors.  
related workers Government executive official.  
Stenographers, typists and teletypists.  
Book-keepers, cashiers, computing  
and office machine operators.  
Telephone and telegraph operators.  
Other clerical workers not  
classified elsewhere.
3. Sales Workers : Managers of wholesale and retail  
trade. Working proprietors of  
wholesale and retail trade.  
Salesman, commercial travellers.  
Sales agents and other business  
services salesman.  
Shop assistants, street vendors,  
hawkers, canvassers and news-vendors.  
Sales workers not classified  
elsewhere.
4. Service : Managers and working proprietors of  
workers catering lodging services.  
House keeping and related service  
supervisors.

- Cooks, waiters, bar tenders and related workers.
- Launderers, dry-cleaners, pressers and related workers.
- Hair and beauty saloon workers.
- Members of Police and Armed Forces.
- Service workers not classified elsewhere.
5. Factory, Construction worker and General labourers : Production supervisors and general foreman.  
Miners, quarrymen, drillers, wood makers, metal processors, and other related workers.  
Tailor, dress makers, sewer, shoe makers, leather good makers, etc.  
Machinery and electrical fitters and related operators.  
Plumbers, welders, sheet metal preparers and other related workers.  
Brick layers, carpenters and other construction workers.  
Stationery engines and related equipment operators.  
Other labourers and workers not classified elsewhere.
6. Agricultural Animal Husbandry and Forestry workers : Farm managers and supervisors.  
Padi planter, rubber planter, farmer, padi and rubber farm worker.  
Forestry workers.  
Fishermen, hunters etc.
7. Student : Primary School, Secondary School, College, University and Private Institution, include student of music school, typing/commerce school.
8. House-wife : Wives not working.
9. Others : Pensioners, old age, no job.

2. Industry

0. Agriculture : Agriculture, Forestry, Fishing,  
Forestry and Logging, Hunting, Trapping.  
Fishing
1. Mining and : Coal mining, metal mining, crude  
quarrying petroleum stone quarrying, mining  
services.
2. Manufacturing : Food manufacturing industries, beverage  
manufacturing industries, tobacco  
products manufacturing, manufacturing  
of textiles, manufacture of footwear  
(except rubber footwear) Other wearing  
apparel and made-up textile goods,  
manufacture of wood, rattan, mengkuang,  
attap and cork products, except  
furniture & footwear, manufacture of  
furniture and fixtures, manufacture of  
paper and paper products, printing,  
publishing and allied industries,  
manufacture of leather and fur and  
leather products, except footwear  
and wearing apparel, manufacture of  
rubber products, manufacture of  
chemicals and chemical products,  
manufacture of non-metallic mineral  
products, petroleum and coal products,  
basic metal industries, manufacture of  
metal products, machinery and transport  
equipment, manufacture of machinery,  
electrical machinery.
3. Construction : General contractors, special trade  
contractors construction services.
4. Commerce : Wholesale trade, retail trade, banks  
and other financial institutions,  
insurance, and real estates.

5. Transport, storage, & Communication Services : Transport  
Railway transport  
Bus and tramway transport  
Road passenger transport, other than bus and tramway.  
Road transport, other than passenger  
Ocean transport.  
Water transport, other than Ocean  
Air transport  
Services incidental to transport  
Transport, not elsewhere classified  
Storage and Warehousing  
Communication  
Postal services  
Telephone, telegraph and cable services.
6. Electricity, water and related services : Electricity, Gas and steam  
Generation, transmission and distribution of electricity.  
Gas manufacture and distribution.  
Water and Sanitary Services  
Water supply  
Sanitary Services.
7. Government services : Federal government: administrative services. Other federal government administrative services, not elsewhere classified.  
Military services  
Police services  
State government administrative services  
Municipal government administrative services  
Local government administrative services  
Foreign government services



8, Other services : Community services

Education services

Medical and health services

Research and scientific institutes

Religious organizations

Welfare organizations

Trade, Professional, and labour  
organizations

Libraries, museums, botanical and  
zoological gardens

Community services, not elsewhere  
classified

Business services

Legal services

Accounting, auditing and book-keeping  
services

Engineering and technical services

Advertising and publicity services

Secretarial and management services

Business consultants and specialists

Miscellaneous business services

Recreation services

Motion picture production, distribution  
and projection

Theatres and related services

Recreation services, except theatres  
and motion pictures

Radio and television broadcasting  
services

Personal services

Domestic services

Restaurants and other eating and  
drinking places

Hotels, rooming houses and other  
lodging places.

Laundry, cleaning, dying and mending  
services

Barber and beauty shops  
 Personal services, not elsewhere  
 classified  
Miscellaneous services  
 Portrait and commercial photographic  
 studios  
 Services to building and dwellings  
 Land clearing services  
 Own-account grass cutting services  
 Labour contracting services, not  
 elsewhere classified  
 Miscellaneous services not elsewhere  
 classified

F. Type of Commodity Carried

1. Unladen : No commodity carried
2. Agriculture : Vegetables, fruits, flower, fish or  
 or Fishery any other marine products, rubber  
 (excluding processed products)
3. Timber, or : Plywood, plank, timber, logs (excluding  
 wood product wood furniture and manufactured good)
4. Minerals : Tin ore, iron ore, granite, sand stones.
5. Metal product : Steel piper, motor cars, electrical  
 and machinery appliances, iron and steel product  
 and other product of light heavy  
 industries.
6. Consumer's : Daily commodities, textile, toys,  
 goods processed food, furniture.
7. Chemical : Oil, fertilizer, fuel, other bulky  
 products products.
8. Miscellaneous

## 5.0 INSTRUCTIONS TO OWNER-INTERVIEW SURVEY

### 5.1 Procedure of Survey

The random samples of vehicles from different categories are selected from registration cards taken from RIMV, Jonor. The interviewer will visit the owner of the vehicle, the name and address of which is found in the Questionnaire Sheet, and interview him according to the instructions given. (The interviewer will go and find the owner of the selected vehicle following the name and address according to the instructions described in the Questionnaire Sheet).

In the case where the vehicle is driven by its owner the interviewer should continue to ask him/her regarding the trips made by him/her and the rest of the questions. If it is driven by a different person, the information regarding trips made for the last 24 hours should be obtained by questioning the driver of the vehicle concerned. If the driver interviewed has not completed his/her trips for the day, the information on the previous days trip is taken.

It is also noted that in order to avoid errors in recording, answers should be recorded immediately as they are given.

There are two (2) categories of owner-interviews to be carried out:

- i) the vehicles which belong to individual owner (private ownership)
- and ii) the vehicles which are the property of Government/semi-Government, co-operative societies, Companies and other Registered Bodies.

- A. Completed Questionnaire may be defined in terms of 2 types:-
  - a) No movement type: This is the Questionnaire that is filled in from column (1) to column (16),

and where the next column (17) is filled in with a pertinent reason for no movement made that day. Examples of pertinent reasons are:-

ill  
on leave  
damaged  
under repair  
others

- b) Movement type: For this type, all questions must be answered in the questionnaire. The important questions are "Origin" (18), "Destination" (20) and "Purpose" (22).

If the above answer are missing or incompletd, the collected questionnaire are of no use to this survey. But it is hoped that all the collected questionnaires are completed at least up to the following columns:-

Columns (1) (2) (6)  
(8) (9) (14) (18)  
(20) (22) (25)

The interview should commence with an introductory greeting:

"Good Morning/Afternoon Sir (or Madam). We are carrying out a traffic survey. Would you please answer some questions about yourself and the usage of your vehicle."

The interviewer should inquire and record the following:

1. Zone Number, Vehicle registered number, Owner's name and address column (1) and the name of the interviewer should be filled before starting the interview. This will enable the interview to go and find the owner of the selected vehicle by following the name and address as recorded in Questionnaire sheet.

2. Column (2) Form of ownership

Ask the owner what type of ownership the vehicle was registered under and tick the appropriate space provided.

If the vehicle is registered under the manager's name, and he uses it for both company and individual use, we classify as under "individual".

3. Column (3) (sex)

Indicate ownership by male or female.

4. Column (4) (Age of owner)

Inquire exact age of owner and tick the appropriate range of age given.

5. Column (5) (Number of household members)

Ask owner to quote the number of persons (including himself) occupying the house.

6. Column (6) (Occupation)

Ask the owner his/her occupation and tick the appropriate range as in column.

Owners may be involved in more than one type of work.

Examples: Sales and service work. In such a case, consider only his main work or business.

7. Column (7) (income Group)

Ask the owner his/her household income and tick the appropriate range as in the column.

8. Column (8) (Type of vehicle)

Tick the corresponding type of vehicle used into the column (8)

9. Column (9) (Loading Capacity)

In the case of Van/Medium Lorry/Heavy Lorry ask the owner of amount commodities (in tons) which can be legally accomodated in the vehicle. If

the vehicle is used for transporting gasoline or petroleum ask him the capacity in gallons.

This does not refer to the capacity of the whole vehicle but only the maximum weight of goods that can be loaded into the vehicle.

If the owner is unsure of the capacity in tons/gallons ask him to give it in another form of measurement. It can be converted later.

10. Column (10) (Type of permit)

In the case of Van/Medium Lorry/Heavy Lorry ask the owner the type of permit and tick the appropriate head as in column.

11. Column (11) (Period of ownership)

Ask the owner the number of years the vehicle has been in his ownership and fill into column (11).

12. Column (12) (Industry)

Ask the owner what type of establishment he/she is engaged in. Then tick appropriately the type of industry into column (12).

13. Column (13) (Size of Employment)

Ask the owner where is his/her working place and then enter the full address into the column (13).

14. Column (14) (Address of working place)

Ask the owner the size of employment of his/her working place, then tick appropriately the size of employment into the column (14).

15. Column (15) (Average mileage travelled per day)

Ask the owner to estimate the average number of miles he would travel in a day.

16. Column (16) (Frequency of vehicle use per week)

Ask the owner the number of days he/she uses the vehicle in a week.

17. Column (17) (Reasons of no movement)

Ask the case where no movement is made when interviewed, ask the owner for the reason and enter the information given into column (17).

18. Column (18) (Origin of the trip)

Ask the owner/driver the origin of his/her first trip for that day i.e. the place where he started his/her journey. Record the name and address of the place. If owner is unsure of exact name of the place, identify it with the nearest town or provide the map for him to indicate the area.

19. Column (19) (Departure Time)

Obtain the exact time at which he started the journey. If owner is not sure, ask him for the approximate hour. Specify the time as a.m. or p.m.

20. Column (20) (Destination of the trip)

Ask the owner/driver where he/she finally closed his/her journey for the first trip and put the name of the place into column (20). The same attention given in column (18) should also be given here.

Column (18-20) Origin and Destination

- i) When the complete Questionnaires are collected back, the origin and destinations will be converted into zone codes by using maps and zone code tables.

Therefore, the origins and destinations written in the columns must be followed by detailed addresses of the places. If the owner is not sure of the address, then ask him further for nearby landmarks famous buildings or nearest identifiable roads.

(eg. Tun Razak Complex, Merlin Tower Hotel)

- ii) If the owner has made many trips but cannot

remember the exact order of the trips, draw a rough sketch of all the origins and destinations first. Then average them and write them into the Questionnaire sheet. This will avoid a confusion of the sequence of the types taken.

iii) The interviewer should be careful that the owner understands about the "origin". Here we are referring to the origin of the very first movement of the vehicle made that day and not just for the purpose of work alone, that is, if the vehicle is company-owned. The interviewer may think that since the vehicle is company owned, they record down the trips made from the place of work and neglect trips that may have been made before that ie. from his home to workplace. In actual fact, he should consider the trip he made from his home to the workplace.

21. Column (21) (Arrival Time)

Ask the owner/driver the exact time he/she arrived at the destination for each trip and enter the time into column (21), in either a.m. or p.m.

22. Column (22) (Trip of Purpose)

Ask the owner/driver the purpose of the trip and mark the corresponding number according to the categories listed in the questionnaire sheet. If there are many passengers in the vehicle, write the answers (in numbers) for each of the trips made into the empty column below column (22).

Here "going to work" should be understood as "going to place of work/employment."

23. Column (23) (Facility of Destination)

Ask the owner/driver the nature of the establishment for which the trip was made. Then insert the



number that corresponds to the categories listed in column (23). If there are more than one passenger in the vehicle then enter the answer for each trip into the column provided. (ie. in case where there are more than one destination)

24. Column (24) (Place of Parking)

Ask the owner/driver where he/she usually parks his/her vehicle for the trip made. Then tick the corresponding number according to the categories listed in the questionnaire. Also ask him/her whether he/she has to pay parking fees, then put the corresponding number according to the categories into the column (24)

25. Column (25) (Number of Occupants)

Ask the owner/driver the number of passengers who boarded his/her vehicle for each trip he/she made. Put the figure to the column (25). If he/she is not sure of the exact numbers ask him/her to give the approximate number. In the case where there are no other passengers, put 1 (One) into the corresponding column (ie. to include himself).

26. Column (26) (Type and amount of commodity carried)

Ask the owner/driver what kind of commodities are carried each trip and put the corresponding number according to the categories listed in the column (26) And in the case where the vehicle is not carrying any commodity enter number 1 (one) into the column (ie. to indicate empty). Also ask him/her the approximate amount of commodities, carried and put approximately into the next column. (To facilitate an answer quote the categories listed ie. full,  $\frac{1}{2}$  during the interview) 2nd, 3rd and the rest of trips made.

27. The same attention with regard to the rest of the trips made for last 24 hours should paid as of the trip and enter them into the appropriate columns in the Questionnaire sheet.

28. Column (27) ...  
This column should be filled by interviewer:

- 1 : Malay
- 2 : Chinese
- 3 : Indian
- 4 : Other races

29. Termination of the interview

i) The interview should terminate each interview by saying:

"That's the end of the interview."

"Thank you for your kind co-operation."

Remarks:

- a) Questions three (3) to seven (7) are only applicable for individual ownership vehicles. For other forms of ownership this information is not required.
- b) Questions nine (9) and ten (10) are applicable to van/medium lorry and heavy lorry only.
- c) No information are required regarding details of working place from either student, housewife or the unemployed.
- d) Information on the trips made for last 24 hours should be taken from the driver of the vehicle if the vehicle is always driven by another person other than the owner.

5.3 Questions for vehicles being the property of government/semi-government-companies and other bodies.

- 1. For vehicle under the property of either one of the above mentioned bodies, write down the name and address of the owner concerned into the column (1). Zone number and name of the interviewer should also be filled by the interviewer before starting the interview.

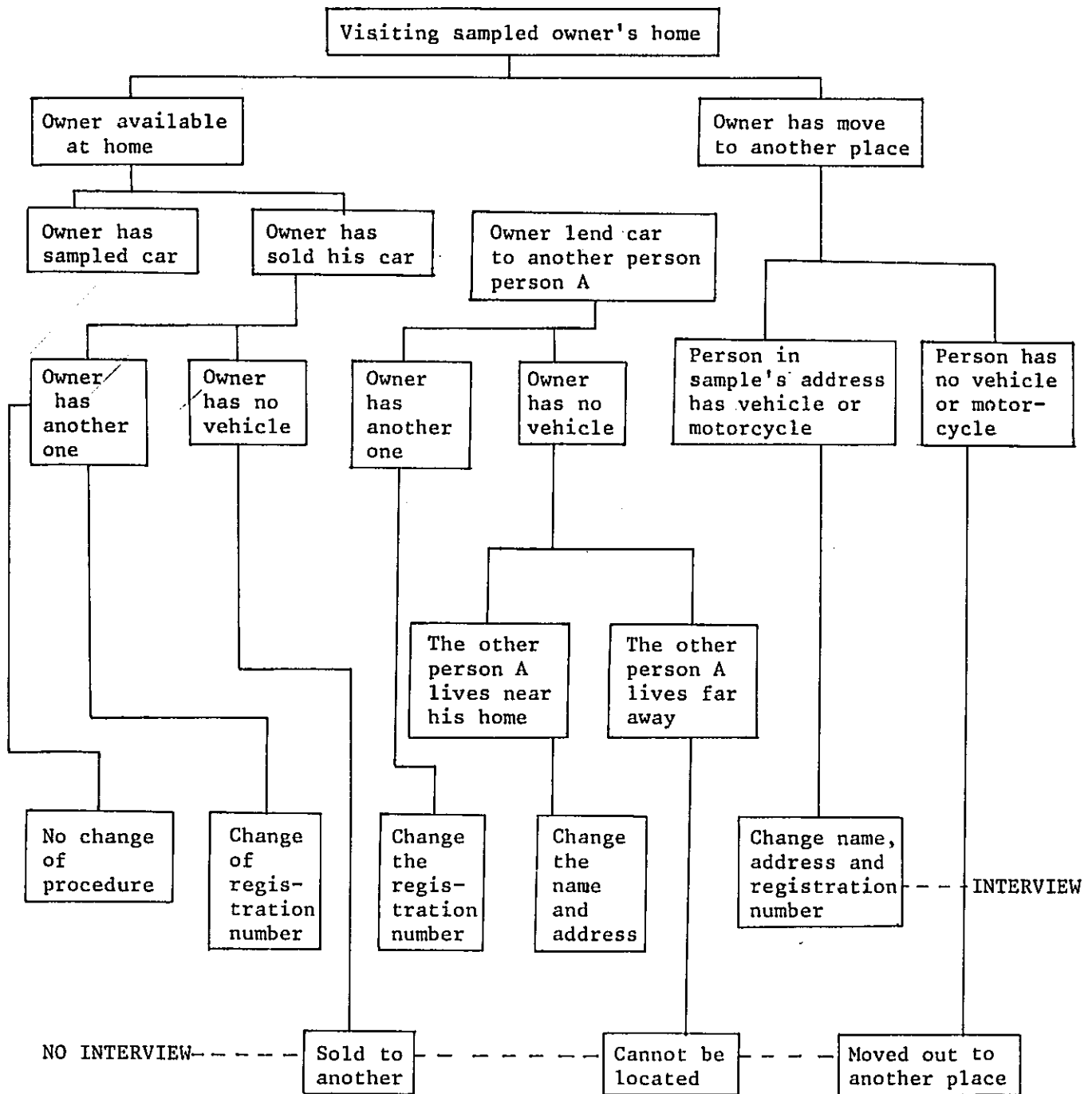
2. No information is required for the columns (3), (4), (5), (6), (7)
3. The information regarding the trips made for the last 24 hours will be obtained by questioning the driver or the personnel in charge and all information are then recorded in the Questionnaire Sheet according to the instructions described.
5. The process of interviewing and recording the information should be carried out in the same procedure as described for the individual owner interview in paragraph 3.

Remarks:

The interviewer should take note of additions in the following items during their interview visits:-

Owners name, address and registered number.

When the interviewer visits the sampled owners home, he will be faced with various obstructions. As a guide, the following diagram illustrates what he should do in each situation. In the case where the interviewer visits a home but finds out that the owner can be interviewed only at his office, then he can get that address and arrange for the interview to be done by a clerk or an Assistant Supervisor who stay near the address of the office.



(If possible, write down the address he moved to)

**Appendix II**

**CAR OWNER INTERVIEW SURVEY**

**MANUAL OF INSPECTION**

"MANUAL OF INSPECTION"

After the collected questionnaires are brought back to this office by the interviewers, they must be inspected by A.S. and the following points must be noted.

- Whether the trips are continuously written. Any mistakes should be corrected and the questionnaire written with the help of the interviewer.

Eg. (in correct) (correct)

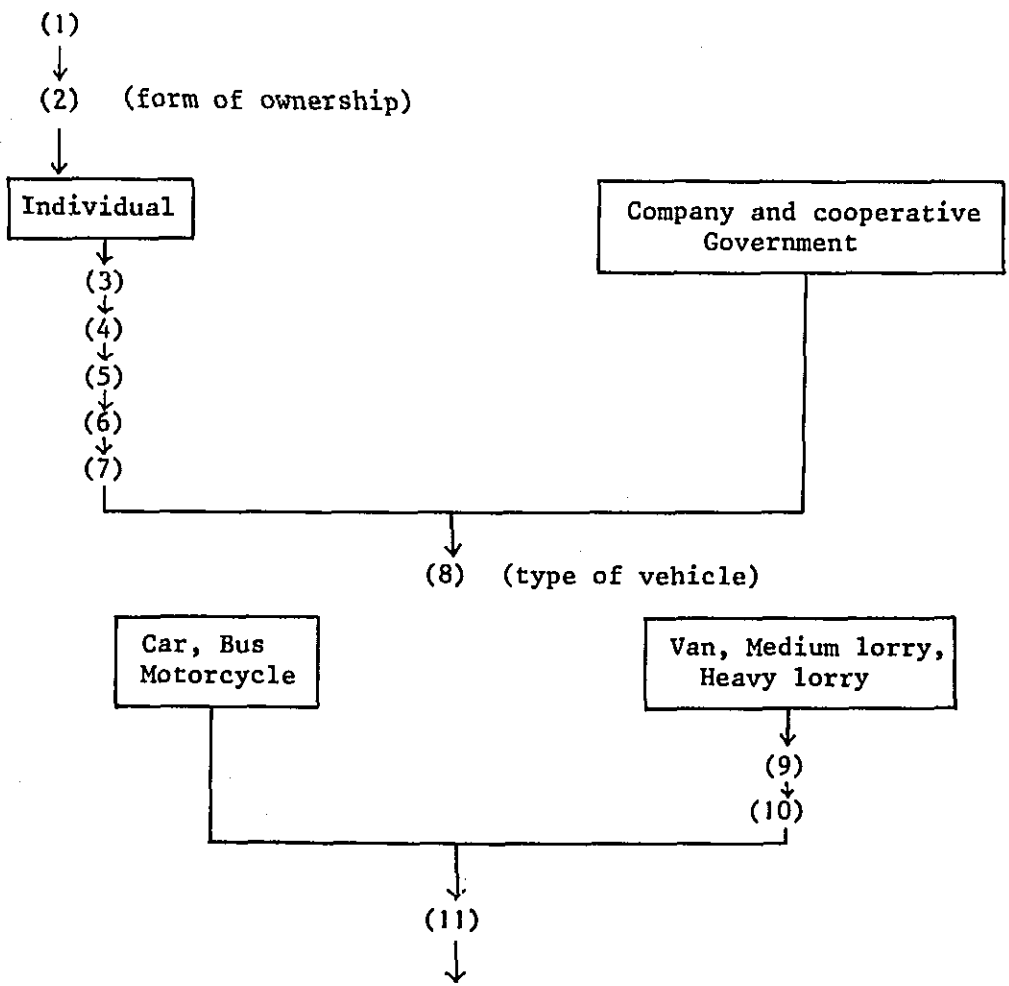
(Home) 1st trip → (Office) (Home) 1st trip → (Office)

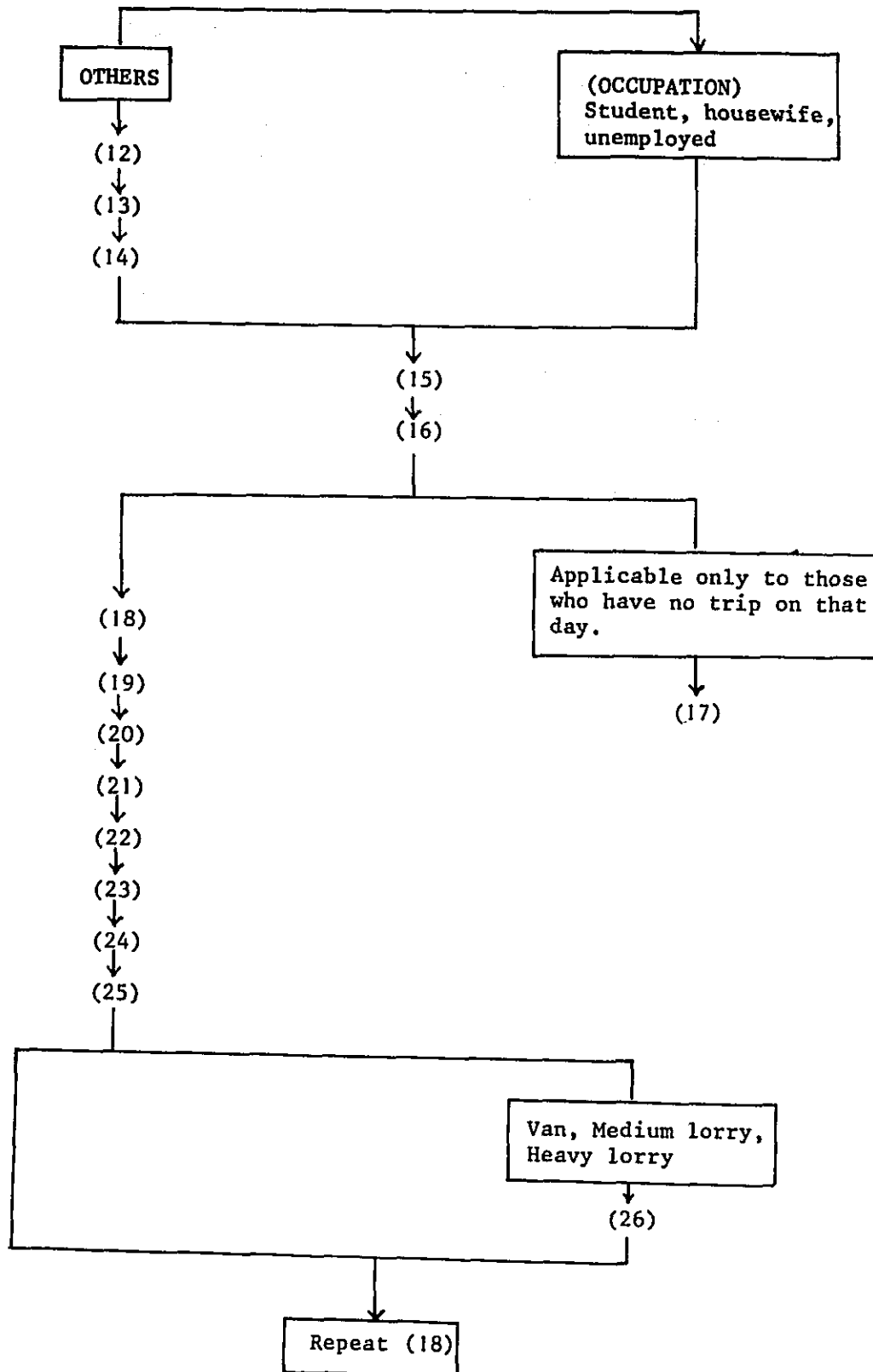
(Home) ← 2nd trip (Restaurant) (Office) 2nd trip → (Restaurant)

(Home) ← 3rd trip (Restaurant) (Home) ← 3rd trip (Restaurant)

If the mistakes are left uncorrected, this questionnaire is of no use to this study.

- Whether the answers are filled in the appropriate/important columns.





### 3. Other Remarks

- SHEET NO. : After the questionnaire has been inspected, this column must be filled with the vehicle type and zone number eg. M422 for motorcycle in Zone 422.
- VEHICLE REGISTERED NUMBER : Check with (8)  
C .....car, van, lorry, bus.  
M .....motorcycle.
- DATE OF TRIP : If this column is filled on a Friday, Saturday, Sunday or public holiday, it must be checked with the interviewer. In this case, the questionnaire is an incompleting one.
- (3) : If the car is registered under the manager's name and he also uses it for individual use, this car is classified under "individual".
- (1)-(16) : When the owner has a chauffeur, these questions must be attributed to the owner (not chauffeur). But it is the chauffeur who is interviewed.
- (9) : This does not mean the capacity of the whole vehicle. We must find out the maximum weight of goods. If owner is unsure of the capacity in tons/gallons, another form of measurement may be filled in. This will be converted later.
- (17) : The pertinent reasons for no movement are as follows:-  
1. ill  
2. on leave  
3. damaged (accident)  
4. under repair  
5. other  
"Lend to another" is not a reason for no movement.



(18)-(20) : Check whether the trips are continuously written.

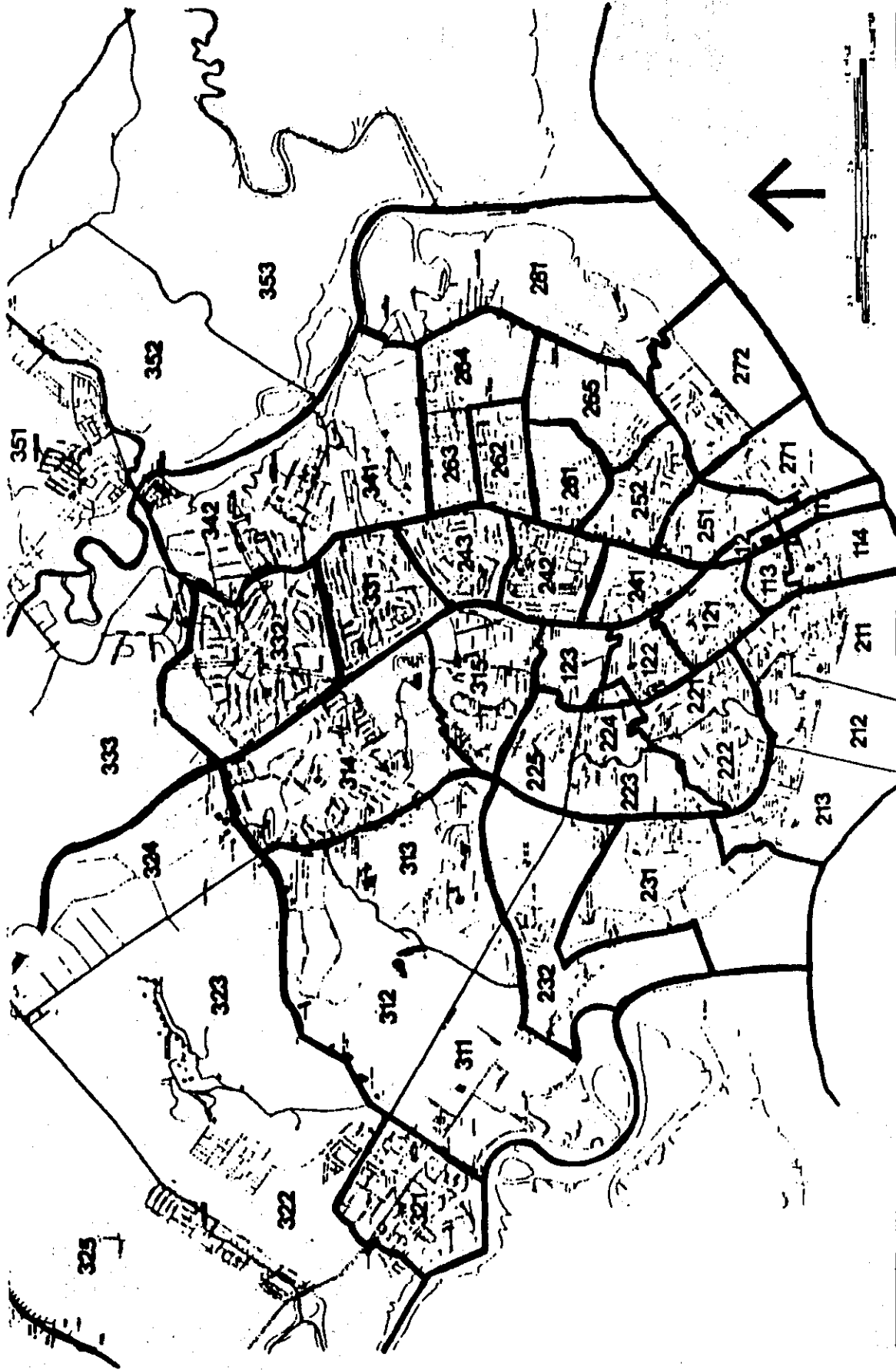
	ORIGIN	DESTINATION
1.		
2.	(same) ←	
3.	(same) ←	
4.	(same) ←	

Appendix III

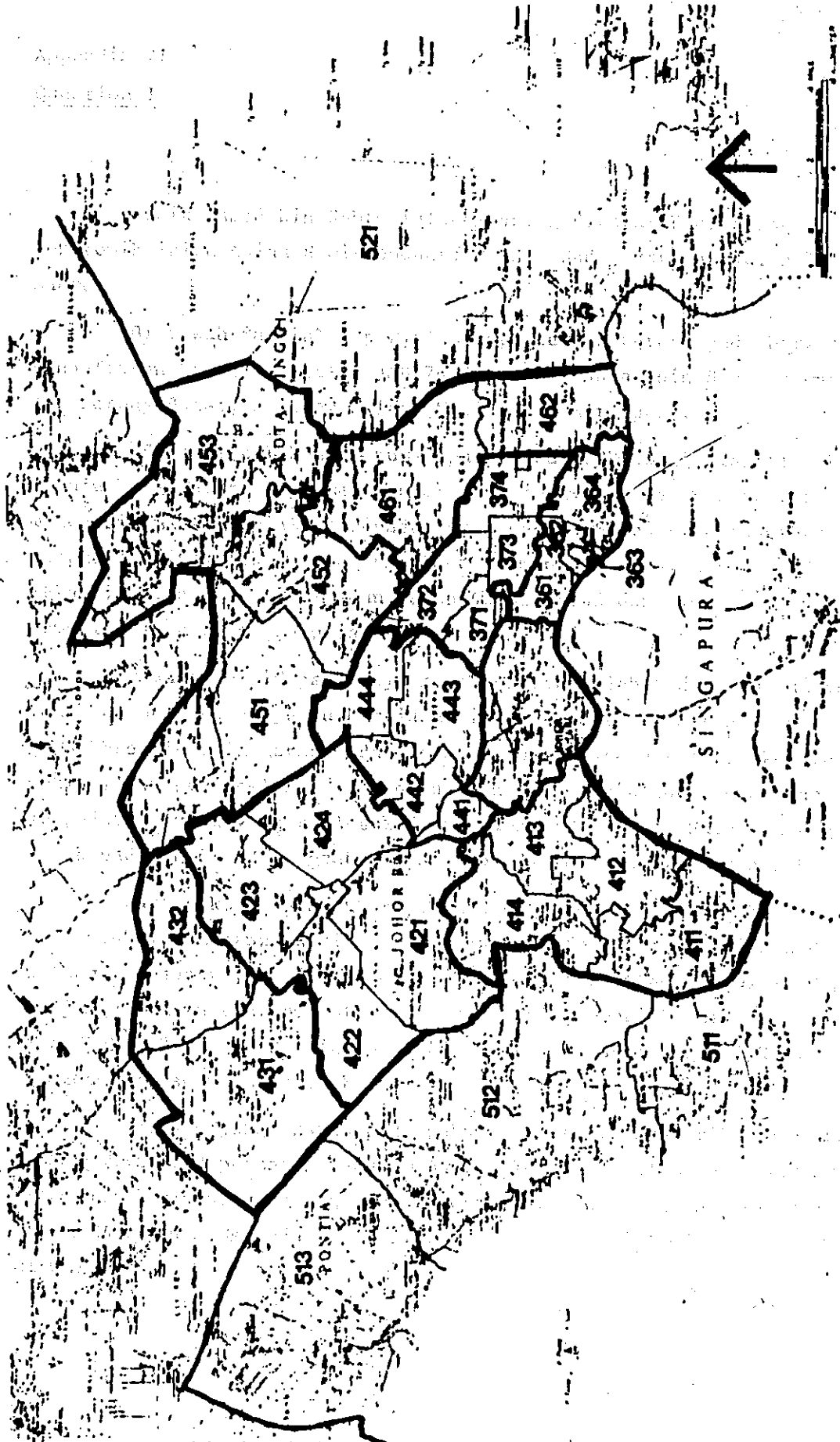
Vehicle Car Owner Interview Survey Traffic Zones

Zone No			Town, District	Zone No			Town, District
A	B	C		A	B	C	
1	1	1	Johor Bahru, Johor Bahru District	3	1	1	Johor Bahru, Johor Bahru District
		2	"			2	"
		3	"			3	"
		4	"			4	"
1	2	1	"			5	"
		2	"	3	2	1	"
		3	"			2	"
2	1	1	"			3	"
		2	"			4	"
		3	"			5	"
2	2	1	"	3	3	1	"
		2	"			2	"
		3	"			3	"
		4	"	3	4	1	"
		5	"			2	"
2	3	1	"	3	5	1	"
		2	"			2	"
2	4	1	"			3	"
		2	"			4	"
		3	"	3	6	1	Plentong, Johor Bahru District
2	5	1	"			2	"
		2	"			3	Pasir Gudang Port, Johor Bahru District
2	6	1	"			4	Plentong, Johor Bahru District
		2	"	3	7	1	"
		3	"			2	"
		4	"			3	"
		5	"			4	"
2	7	1	"				
		2	"				
2	8	1	"				

Zone No.			District, State, Country	Zone No.			District, State, Country
A	B	C		A	B	C	
4	1	1	Tanjung Kupang Johor Bahru District	9	1	1	Batu Pahat, Johor
		2	Pulai, Tanjong Kupang, Johor Bahru District			2	Kluang, Johor
		3	" " "			3	Ulu Sungai Sedili Besar, Kota Tinggi
		4	" " "			4	Mersing, Johor
4	2	1	Senai Kulai, Johor Bahru District			5	Segamat, Johor
		2	" "			6	Muar, Johor
		3	" "	9	2	1	Melaka
		4	" "			2	Negeri Sembilan
4	3	1	Sedenak, Johor Bahru District			3	Selangor
		2	" "	9	3	1	Pahang
4	4	1	Tebrau, Johor Bahru District			2	Trengganu
		2	" "			3	Kelantan
		3	" "	9	4	1	Perak
		4	" "			2	Penang
4	5	1	Ulu Sungai Johor, Kota Tinggi District			3	Kedah & Perlis
		2	Kota Tinggi, Kota Tinggi District	9	5	1	Western Part of Singapore
		3	" "			2	North Central of Singapore
4	6	1	Sungai Tiram, Johor Bahru District			3	Eastern Part of Singapore
		2	" "			4	South Central of Singapore
5	1	1	Pontian District	9	6	1	Thailand
		2	"				
		3	"				
5	2	1	Pantai Timor				



<p>URBAN TRANSPORT MASTER PLAN STUDY FOR THE JOHOR BAHRU CONURBATION MALAYSIA</p>	<p>LEGEND</p>	<p>TITLE: Appendix IV</p> <p>ANALYTICAL ZONES</p>
---	---------------	---



URBAN TRANSPORT MASTER PLAN STUDY FOR THE JOHOR BAHRU CONURBATION, MALAYSIA.	LEGEND	TITLE	Appendix V
			ANALYTICAL ZONES
			FIG

Appendix VI

Question I

The contact number of the witness is 25.5.1981

Encik Ahmad bin Sabtu ialah seorang Pegawai Kakitangan disebuah firma elektronik iaitu Asian Semi-Conductors Sdn. Bhd., Batu 4, Jalan Tampoi, Johor Bahru.

Di bawah ini ialah perjalanannya dengan kereta pada hari semalam. Nombor Pendaftaran keretanya ialah JAB 7472. Encik Ahmad bin Sabtu tinggal di alamat 1A, Lorong Balai, Kampung Melayu Majidee, Johor Bahru.

"Saya bertolak dari rumah pada pukul 7.20 pagi tiap-tiap hari. Sebelum menuju ke pejabat, saya menghantar isteri saya ke Pasar Besar, perjalanan mengambil masa 10 minit daripada rumah saya. Selepas menghantarnya ke pasar, saya menghala ke Sekolah Sultan Ismail untuk menghantar anak saya. Perjalanan ini melalui Jalan Tasek Utara dan Jalan Abdul Samad dan memakan masa 15 minit. Kemudian saya terus ke pejabat.

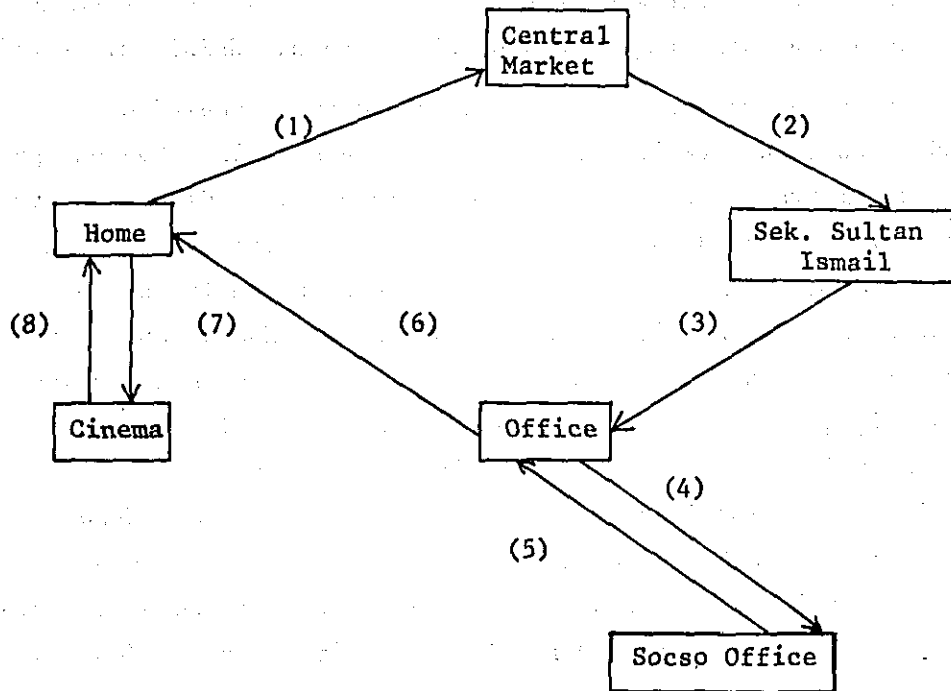
Pada pukul 10 pagi saya meninggalkan pejabat dan tiba di pejabat SOCSO yang terletak di Bangunan Kerajaan di Jalan Bukit Timbalan pada pukul 10.25 pagi. Saya bernasib baik kerana ada tempat kosong di tempat letak kereta pelawat. Pada pukul 11.40 pagi selepas berbincang tentang masa'alah perundangan saya berjalan ke pejabat Buruh yang terletak di kompleks yang sama. Saya meninggalkan pejabat Buruh pada pukul 12 tengahhari dan tiba di pejabat saya pada pukul 12.30 tengahhari.

Pada pukul 1 tengahhari saya dan kawan-kawan pergi ke kantin di kilang itu untuk makan tengahhari. Pada pukul 2 petang, saya berjumpa dengan Pengurus kilang. Pejabatnya terletak di tapak yang sama. Pada pukul 2.30 petang saya berjumpa dengan pengurus stor kerana aduan mengenai kecurian. Saya bersamanya dari pukul 2.45 petang hingga 3.30 petang. Sebagai Pegawai kakitangan saya wajib menghadziri semua masa'alah ini.

Tugas pejabat habis pada pukul 5 petang. Saya tiba di rumah lebih kurang pada pukul 5.30 petang. Semalam pada pukul 8.25 malam saya serta isteri dan anak saya pergi menonton wayang gambar. Kami tiba di panggong Rex yang terletak di Jalan Wong Ah Fook pada pukul 8.40 malam. Kami tiba di rumah pada pukul 11.30 malam. "

ANSWERS

The correct answers about the number of trips in Question I are as follows:-



Total Trips = 8

This question considers the following:-

- 1) Disjointed trip which is one that has a dropping-off point or a collection point along the route has to be counted as separate trips.
- 2) The trips which are done within the same site, that is in an internally closed area, should not be counted as many trips.

Question 2

31.5.1981

Nama saya Encik Hew Wee Tseng. Alamat rumah saya ialah 36, Jalan Okid, Taman Masai, Masai. Tugas harian ialah memandu van untuk menghantar telur-telur. Dibawah ini ialah senarai perjalanan saya pada hari semalam.

"Selalunya saya menumpang kereta kawan saya pada pukul 7.50 pagi untuk pergi ke kedai di mana saya bekerja iaitu di Ngee Heng Sdn. Bhd., 12-B, Jalan Trus. Saya tiba pada pukul 8.15 pagi. Dari sini saya memandu van dan dengan segera bertolak (8.20 pagi) dengan seorang pembantu ke tempat ternak ayam di Jalan Datin Halimah dimana saya dibekalkan dengan telur-telur untuk dihantar ke-beberapa buah rumah. Saya tiba di sana lebih kurang pada pukul 8.45 pagi dan menunggu sehingga telur-telur telah siap di muatkan kedalam van saya, (muatan van saya ialah 18 cwt). Saya beredar pada pukul 9.15 pagi dan menuju ke Taman Pelangi. Saya tiba disana lebih kurang pada pukul 9.15 pagi. Di sini saya pergi ke 50 buah rumah dimana tempahan untuk membeli telur telah di buat. Saya mengambil masa lebih kurang 4 minit di tiap-tiap rumah. Biasanya saya selesai menghantar telur di tempat ini pada pukul 11.30 pagi. Selepas itu saya menuju ke Taman Tasek yang memakan masa 15 minit dari Taman Pelangi. Disini juga saya menghantar telur ke 30 buah rumah. Kerja saya selesai pada pukul 1.00 tengahhari dan tiba di kedai saya pada pukul 1.15 tengahhari. Saya letak van itu di lorong di belakang kedai.

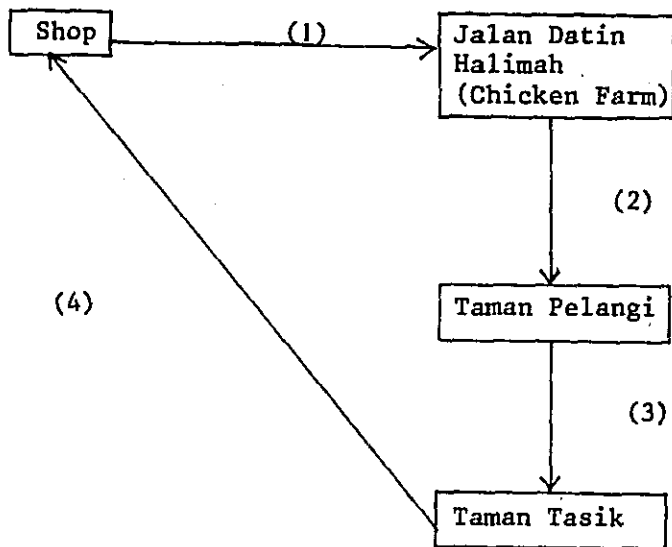
Semalam pada pukul 1.40 tengahhari saya dan kawan saya keluar makan tengahhari. Kami menaiki keretanya. Saya tiba di restoran lebih kurang pada pukul 1.45 petang. Pada pukul 2.10 petang saya pergi makan angin selama 10 minit dengan menaiki kereta kawan saya. Saya balik ke kedai pada pukul 2.30 petang dan bekerja di kedai saya pada sebelah petangnya.

Pada pukul 5 petang kawan saya datang untuk menjemput saya pulang. Saya tiba di rumah pada pukul 5.40 petang.

Pada malam hari saya keluar ke bandar menaiki bas pada pukul 7.40 malam. Saya berada di bandar dari pukul 8.30 malam dan pulang rumah pada pukul 11.30 malam."



The correct answers about the number of trips in Question 2 are as follows:-



Total Trips = 4

This question considers the following:-

- 1) The object of this survey is the movement of the sampled vehicle and not the movement of the owners. In this case, only the movement of the van has to be interviewed for.
- 2) A trip which has many short trips as in this case of this question where there is a distribution of goods may be omitted.

The completed questionnaires which were filled by the interviewers were check by the supervisors and if there is any mistake, it will be corrected and the error explained to the interviewers

The result of the test was good.

<b>Sampling Card A (for supervisor)</b>		<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																																			
Type of vehicle	<input type="checkbox"/> Car <input type="checkbox"/> Taxi <input type="checkbox"/> Motor cycle <input type="checkbox"/> Van, Pick up <input type="checkbox"/> Medium lorry <input type="checkbox"/> Scooter <input type="checkbox"/> Heavy lorry <input type="checkbox"/> Bus	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">Sample</th> </tr> <tr> <td style="width: 50%;"><input type="checkbox"/> sample</td> <td style="width: 50%;"><input type="checkbox"/> supplement    <input type="checkbox"/> other</td> </tr> <tr> <th colspan="2" style="text-align: center;">Notification</th> </tr> <tr> <td style="width: 50%;">Date Dispatched</td> <td style="width: 50%;">mark if returned</td> </tr> <tr> <td> </td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <th colspan="2" style="text-align: center;">interview</th> </tr> <tr> <td style="width: 30%;">Date trips made</td> <td> </td> </tr> <tr> <td>name of assistant supervisor</td> <td> </td> </tr> <tr> <td>name of interviewer</td> <td> </td> </tr> <tr> <td colspan="2" style="text-align: center;"> <input type="checkbox"/> Collection    <input type="checkbox"/> Non-collection                 </td> </tr> </table>										Sample		<input type="checkbox"/> sample	<input type="checkbox"/> supplement <input type="checkbox"/> other	Notification		Date Dispatched	mark if returned		<input type="checkbox"/>	interview		Date trips made		name of assistant supervisor		name of interviewer		<input type="checkbox"/> Collection <input type="checkbox"/> Non-collection							
Sample																																					
<input type="checkbox"/> sample	<input type="checkbox"/> supplement <input type="checkbox"/> other																																				
Notification																																					
Date Dispatched	mark if returned																																				
	<input type="checkbox"/>																																				
interview																																					
Date trips made																																					
name of assistant supervisor																																					
name of interviewer																																					
<input type="checkbox"/> Collection <input type="checkbox"/> Non-collection																																					
register number																																					
Owner's name																																					
Owner's address																																					
Zone Code	<input type="checkbox"/> JOHOR BAHRU <input type="checkbox"/> OTHER JB DISTRICT <input type="checkbox"/> KOTA TINGGI																																				
<b>Sampling Card B (for interviewer)</b>		<table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> </table>																																			
Type of vehicle	<input type="checkbox"/> Car <input type="checkbox"/> taxi <input type="checkbox"/> motor cycle <input type="checkbox"/> Van, Pick up <input type="checkbox"/> Medium lorry <input type="checkbox"/> scooter <input type="checkbox"/> Heavy lorry <input type="checkbox"/> Bus	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">results of interview</th> </tr> <tr> <td style="width: 50%;"><input type="checkbox"/> refused to answer</td> <td style="width: 50%;"><input type="checkbox"/> moved out to another place</td> </tr> <tr> <td><input type="checkbox"/> unable to be located</td> <td><input type="checkbox"/> sold to another</td> </tr> <tr> <td><input type="checkbox"/> damaged car</td> <td><input type="checkbox"/> scrapped car</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> interviewed</td> </tr> <tr> <th colspan="2" style="text-align: center;">results of visiting</th> </tr> <tr> <td> </td> <td style="text-align: center;">date</td> <td style="text-align: center;">time</td> </tr> <tr> <td>No. 1</td> <td> </td> <td> </td> </tr> <tr> <td>No. 2</td> <td> </td> <td> </td> </tr> <tr> <td>No. 3</td> <td> </td> <td> </td> </tr> <tr> <td colspan="2" style="text-align: center;">Signature of interviewer</td> </tr> </table>										results of interview		<input type="checkbox"/> refused to answer	<input type="checkbox"/> moved out to another place	<input type="checkbox"/> unable to be located	<input type="checkbox"/> sold to another	<input type="checkbox"/> damaged car	<input type="checkbox"/> scrapped car	<input type="checkbox"/> interviewed		results of visiting			date	time	No. 1			No. 2			No. 3			Signature of interviewer	
results of interview																																					
<input type="checkbox"/> refused to answer	<input type="checkbox"/> moved out to another place																																				
<input type="checkbox"/> unable to be located	<input type="checkbox"/> sold to another																																				
<input type="checkbox"/> damaged car	<input type="checkbox"/> scrapped car																																				
<input type="checkbox"/> interviewed																																					
results of visiting																																					
	date	time																																			
No. 1																																					
No. 2																																					
No. 3																																					
Signature of interviewer																																					
register number																																					
owners name																																					
owners address																																					
telephone number																																					
memo																																					

SULIT		NEGERI JOHOR		TUJUAN SOALSELIDIK INI IALAH UNTUK MENGUMPUL MAKLUMAT-MAKLUMAT YANG PENTING BERHUBUNG DENGAN PERJALANAN KENDERAAN UNTUK DIGUNAKAN DIDALAM KAJIAN MENYEDIAKAN SATU PELAN INDUK SISTEM PENGANGKUTAN DI JOHOR BAHRU. SEMUA MAKLUMAT ADALAH SULIT. DIHARAP PIHAK TUAN DAPAT MENJAWAB BEBERAPA SOALAN DI BAWAH BERHUBUNG DENGAN PERJALANAN KENDERAAN TUAN BAGI TEMPUH PERJALANAN DALAM MASA 24 JAM YANG LEPAS.				NOMBOR BORANG	NOMBOR PENDAFTARAN KENDERAAN				TARIKH PERJALANAN
ARAHAN		(1) ALAMAT	(2) BENTUK HAKMILIK	(3) JANTINA	(5) JUMLAH ISI RUMAH	(6) PEKERJAAN	(7) Pendapatan sekeluarga dalam satu bulan						
(A) TANDAKAN ✓ DI KOTAK YANG SESUAI DI DALAM BORANG INI			1 <input type="checkbox"/> Persendirian	1 <input type="checkbox"/> Lelaki 2 <input type="checkbox"/> Perempuan		0 <input type="checkbox"/> Pentadbiran & Pengurusan 1 <input type="checkbox"/> Iktisad, Teknikal dan yang berkaitan 2 <input type="checkbox"/> Perkeranian dan yang berkaitan 3 <input type="checkbox"/> Pekerja jualan 4 <input type="checkbox"/> Perkhidmatan 5 <input type="checkbox"/> Pekerja kilang, pembinaan, pengangkutan dan Buruh Kasir 6 <input type="checkbox"/> Pertanian, Perikanan, Perhutanan dan Perikanan 7 <input type="checkbox"/> Pelajar 8 <input type="checkbox"/> Suri rumah tangga 9 <input type="checkbox"/> Lain-lain	1 <input type="checkbox"/> Kurang drp. \$100 2 <input type="checkbox"/> \$ 200 - \$ 299 3 <input type="checkbox"/> \$ 300 - \$ 599 4 <input type="checkbox"/> \$ 600 - \$ 999 5 <input type="checkbox"/> \$1,000 - \$1,999 6 <input type="checkbox"/> \$2,000 - \$4,999 7 <input type="checkbox"/> \$5,000 & Ke atas						
(B) TULISKAN ANGKA DAN LAIN-LAIN KETERANGAN BAGI MENJAWAB SOALAN-SOALAN LAIN.			2 <input type="checkbox"/> Syarikat dan koperatif 3 <input type="checkbox"/> Kerajaan	(4) UMUR 1 <input type="checkbox"/> Bawah 19 4 <input type="checkbox"/> 40 - 49 2 <input type="checkbox"/> 20 - 29 5 <input type="checkbox"/> 50 ke atas 3 <input type="checkbox"/> 30 - 39									
(8) JENIS KENDERAAN	(9) JUMLAH HAD MUATAN BAGI VAN/LORI	PERJALANAN DALAM MASA 24 JAM YANG LEPAS (dengan kenderaan sendiri)				(22) TUJUAN PERJALANAN	(23) JENIS TEMPAT YANG DITUJU	(24) TEMPAT LETAK KENDERAAN	(25) JUMLAH PENUMPANG TERMASUK PEMANDU	(26) JENIS DAN JUMLAH BARANG YANG DIBAWA (untuk van, lori sederhana & lori berat)			
1 <input type="checkbox"/> Kereta 2 <input type="checkbox"/> Van 3 <input type="checkbox"/> Lori sederhana 4 <input type="checkbox"/> Lori berat 5 <input type="checkbox"/> Bas 6 <input type="checkbox"/> Motosikal	Tan Gelen  (10) Jenis Permit Van/Lori 1 <input type="checkbox"/> "A" Sewa dan Upah 2 <input type="checkbox"/> "C" Barang Sendiri 3 <input type="checkbox"/> Kepunyaan Kerajaan	NOMBOR PERJALANAN	(18) TEMPAT PERMULAAN (Nama dan Alamat)	(19) MASA BERTOLAK	(20) TEMPAT DITUJU (Nama dan Alamat)	(21) MASA SAMPAI	1 Ke Tempat Kerja 2 Ke Sekolah 3 Urusan Rasmi/ Perniagaan 4 Ke rumah 5 Membeli belah 6 Rekreasi 7 Sahab Ugama 8 Lawatan Sosial 9 Lain-lain tujuan	0 Tempat Kediaman 1 Pej. Kerajaan & Swasta 2 Kedai Runcit dan Kedai Pemhorong 3 Kilang 4 Kemudahan Pengangkutan 5 Institusi Pelajaran 6 Institusi Agama & Sosial 7 Kawasan Pertanian 8 Taman Peranginan 9 Lain-lain	1 tepi jalan 2 tempat awam 3 tempat khas 4 tanah lapang 5 dirumah 1 kena bayar 2 percuma	1 tiada muatan 2 hasil pertanian perikanan dan hasil-hasil drp. ternakan 3 kayu kayan dan barang barung daripada kayu 4 bahan galian 5 barang-barang besi, alat-alat mesin dan barang-barang Pengangkutan 6 barang pembeli 7 bahan bahan kimia 8 lain-lain	1. penuh 2. ½ penuh 3. ¼ penuh 4. ¼ penuh 5. kurang dan ¼		
(11) JANGKA MASA HAK MILIK 1 <input type="checkbox"/> Kurang drp 1 thn. 3 <input type="checkbox"/> 3 - 4 thn. 2 <input type="checkbox"/> 1 - 2 thn. 4 <input type="checkbox"/> 5 thn. dan ke atas													
MAKLUMAT BERKENAAN TEMPAT KERJA		1 2 3 4 5	(12) INDUSTRI 0 <input type="checkbox"/> Pertanian, Perhutanan, Perikanan 1 <input type="checkbox"/> Perlombongan dan kuari 2 <input type="checkbox"/> Pembuatan 3 <input type="checkbox"/> Peminanaan 4 <input type="checkbox"/> Perdagangan 5 <input type="checkbox"/> Pengangkutan, Perkhidmatan, Stor dan Perhubungan 6 <input type="checkbox"/> Letrik air dan petkhidmatan yang berkaitan 7 <input type="checkbox"/> Perkhidmatan kerajaan 8 <input type="checkbox"/> Kerja sendiri 9 <input type="checkbox"/> Lain-lain	Pg.	Pg.								
(13) JUMLAH PEKERJA: 1 <input type="checkbox"/> 1 - 4 4 <input type="checkbox"/> 20 - 49 2 <input type="checkbox"/> 5 - 9 5 <input type="checkbox"/> 50 - 99 3 <input type="checkbox"/> 10 - 19 6 <input type="checkbox"/> 100 & lebih			Ptg.	Ptg.									
(14) ALAMAT TEMPAT KERJA:			Pg.	Pg.									
(15) PURATA PERJALANAN (BATU) SEHARI			Ptg.	Ptg.									
(16) KEGUNAAN KENDERAAN DALAM SEMINGGU 1 <input type="checkbox"/> Tidak digunakan 4 <input type="checkbox"/> 5 - 6 hari 2 <input type="checkbox"/> 1 - 2 hari 5 <input type="checkbox"/> Tiap-tiap hari 3 <input type="checkbox"/> 3 - 4 hari			Pg.	Pg.									
(17) SEBAB TIDAK MEMBUAT PERJALANAN  (untuk diisi oleh penemuramah)		Pg.	Pg.										

Sila lihat Sebelah.

NOMBOR PERJALANAN	PERJALANAN DALAM MASA 24 JAM YANG LEPAS (dengan kenderaan sendiri)				(22) TUJUAN PERJALANAN	(23) JENIS TEMPAT YANG DITUJU	(24) TEMPAT LETAK KENDERAAN		(25) JUMLAH PENUMPANG TERMASUK PEMANDU	(26) JENIS DAN JUMLAH BARANG YANG DI-BAWA (untuk van, lori sederhana & lori berat)	
	(18) TEMPAT PERMULAAN (Nama dan Alamat)	(19) MASA BERTOLAK	(20) TEMPAT DITUJU (Nama dan Alamat)	(21) MASA SAMPAI							
6		Pg. Ptg.		Pg. Ptg.	1 Ke Tempat Kerja 2 Ke Sekolah 3 Urusan Rasmi/ Perniagaan 4 Ke rumah 5 Membeli belah 6 Rekreasi 7 Sebah Ujama 8 Lawatan Sosial 9 Lain-lain tujuan	0 Tempat Kediaman 1 Pej. Kerajaan & Swasta 2 Kedai Runcit dan Kedai Pemborong 3 Kilang 4 Kemudahan Pengangkutan 5 Institusi Pelajaran 6 Institusi Ujama & Sosial 7 Kawasan Pertanian 8 Taman Peranginan 9 Lain-lain	1 tepi jalan 2 tempat awam 3 tempat khas 4 tanah lapang 5 di rumah	1 kena bayar 2 percuma		1 tiada muatan 2 hasil pertanian perikanan dan hasil- hasil drp. ternakan 3 kayu kayan dan barang barang daripada kayu 4 bahan galian 5 barang-barang besi, alat- alat mesin dan barang- barang pengangkutan 6 barang pembeli 7 bahan-bahan kimia 8 lain-lain	1. penuh 2. 3/4 penuh 3. 1/2 penuh 4. 1/4 penuh 5. kurang dari 1/4
7		Pg. Ptg.		Pg. Ptg.							
8		Pg. Ptg.		Pg. Ptg.							
9		Pg. Ptg.		Pg. Ptg.							
10		Pg. Ptg.		Pg. Ptg.							
11		Pg. Ptg.		Pg. Ptg.							

Terima kasih kerana kerjasama anda.

Untuk Kegunaan Pejabat			
(27)  <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 1 2 3 4	(28) Nama	(29) Ditemubual oleh: Nama: ..... Tandatangan: ..... Tarikh: .....	(30) Penyelia Nama: ..... Tandatangan: ..... Tarikh: .....

<b>CONFIDENTIAL</b>		<b>THE PURPOSE OF THIS INTERVIEW IS TO COLLECT NECESSARY INFORMATION FOR A STUDY TO DRAW UP A MASTER PLAN FOR THE TRANSPORTATION SYSTEM IN THE JOHOR BAHRU CONURBATION. ALL INFORMATION WILL BE KEPT IN THE STRICTEST CONFIDENCE. PLEASE ANSWER THE FOLLOWING QUESTIONS REGARDING YOUR TRAFFIC MOVEMENT IN THE LAST 24 HOURS.</b>						SHEET NO.													
<b>VEHICLE OWNER INTERVIEW QUESTIONNAIRE</b>		<b>STATE OF JOHOR</b>						VEHICLE REGISTERED NO.													
<b>INSTRUCTION</b>		(1) Address		(2) FORM OF OWNERSHIP		(3) SEX 1 <input type="checkbox"/> Male    2 <input type="checkbox"/> Female		(5) Number of Household Members		(6) OCCUPATION		(7) Household Income per month									
<p>A Please tick <input checked="" type="checkbox"/> in the appropriate <input type="checkbox"/></p> <p>B Write number and other necessary information for the remaining Questions.</p>				1 <input type="checkbox"/> Individual 2 <input type="checkbox"/> Company and Co-operative 3 <input type="checkbox"/> Government		(4) AGE 1 <input type="checkbox"/> Below 19    4 <input type="checkbox"/> 40-49 2 <input type="checkbox"/> 20-29    5 <input type="checkbox"/> 50 & above 3 <input type="checkbox"/> 30-39				0 <input type="checkbox"/> Administrative & Managerial work    7 <input type="checkbox"/> Student 1 <input type="checkbox"/> Professional, Technical & related work    8 <input type="checkbox"/> Housewife 2 <input type="checkbox"/> Clerical & related work    9 <input type="checkbox"/> Others 3 <input type="checkbox"/> Sales work 4 <input type="checkbox"/> Service work 5 <input type="checkbox"/> Factory, Construction, Transportation and related work 6 <input type="checkbox"/> Agriculture, Animal husbandary, Forestry & Fishery work		1 <input type="checkbox"/> Less \$ 100 2 <input type="checkbox"/> \$100-299 3 <input type="checkbox"/> \$300-599 4 <input type="checkbox"/> \$600-999 5 <input type="checkbox"/> \$1000-1,999 6 <input type="checkbox"/> \$2000-4,999 7 <input type="checkbox"/> \$5000 & over									
(8) TYPE OF VEHICLE		(9) LOADING CAPACITY OF VAN/LORRY		TRIPS MADE BY OWNED VEHICLE DURING THE LAST 24 HOURS				(22) TRIP PURPOSE		(23) FACILITY OF DESTINATION		(24) PARKING FACILITY		(25) NUMBER OF PASSENGERS INCLUDING DRIVER		(26) TYPE AND AMOUNT OF COMMODITY CARRIED (for van/medium lorry/heavy lorry)					
1 <input type="checkbox"/> Car 2 <input type="checkbox"/> Van 3 <input type="checkbox"/> Medium Lorry 4 <input type="checkbox"/> Heavy Lorry 5 <input type="checkbox"/> Bus 6 <input type="checkbox"/> Motorcycle		..... Tons ..... Gallons  (10) Type of Permit of Van/Lorry 1 <input type="checkbox"/> "A" Hire and Reward 2 <input type="checkbox"/> "C" Own Good 3 <input type="checkbox"/> Government		TRIP NO.		(18) ORIGIN (Name & Address)		(19) DEPARTURE TIME		(21) ARRIVAL TIME		(20) DESTINATION (Name & Address)		1 To work 2 To school 3 Business/Official engagement 4 To home 5 Shopping 6 Recreation 7 Religious purpose 8 Social visit 9 Others		0 Residence 1 Government office and Private firm 2 Retail and wholesale shops 3 Factory 4 Transport facility 5 Educational Institution 6 Religious & Social Institution 7 Agriculture 8 Park & Recreation 9 Others		1 roadside 2 public 3 private 4 vacant land 5 own garage  1 charged 2 free		1. full 2. 3/4 full 3. 1/2 full 4. 1/4 full 5. less than 1/4	
(11) PERIOD OF OWNERSHIP		(12) INDUSTRY		(13) SIZE OF EMPLOYMENT		(14) ADDRESS OF WORKING PLACE		(15) AVERAGE MILES TRAVELLED PER DAY.		(16) FREQUENCY OF VEHICLE USE PER WEEK		(17) REASON FOR NO MOVEMENT									
1 <input type="checkbox"/> Less 1 yr    2 <input type="checkbox"/> 1-2 yrs    3 <input type="checkbox"/> 3-4 yrs 4 <input type="checkbox"/> 5 yrs and above.		0 <input type="checkbox"/> Agriculture, Forestry, Fishing 1 <input type="checkbox"/> Mining & Quarrying 2 <input type="checkbox"/> Manufacturing 3 <input type="checkbox"/> Construction 4 <input type="checkbox"/> Commerce 5 <input type="checkbox"/> Transport, Storage & Communication Services 6 <input type="checkbox"/> Electricity, water & Related services 7 <input type="checkbox"/> Government service 8 <input type="checkbox"/> Private services 9 <input type="checkbox"/> Others		1 <input type="checkbox"/> 1-4    4 <input type="checkbox"/> 20-49 2 <input type="checkbox"/> 5-9    5 <input type="checkbox"/> 50-99 3 <input type="checkbox"/> 10-19    6 <input type="checkbox"/> 100 and over		AM PM		AM PM		AM PM		1 <input type="checkbox"/> No-Use    4 <input type="checkbox"/> 5-6 days 2 <input type="checkbox"/> 1-2 days    5 <input type="checkbox"/> Everyday 3 <input type="checkbox"/> 3-4 days		AM PM		AM PM		AM PM			
(18) FREQUENCY OF VEHICLE USE PER WEEK		(19) REASON FOR NO MOVEMENT		(20) REASON FOR NO MOVEMENT		(21) REASON FOR NO MOVEMENT		(22) REASON FOR NO MOVEMENT		(23) REASON FOR NO MOVEMENT		(24) REASON FOR NO MOVEMENT		(25) REASON FOR NO MOVEMENT		(26) REASON FOR NO MOVEMENT					
1 <input type="checkbox"/> No-Use    4 <input type="checkbox"/> 5-6 days 2 <input type="checkbox"/> 1-2 days    5 <input type="checkbox"/> Everyday 3 <input type="checkbox"/> 3-4 days		AM PM		AM PM		AM PM		AM PM		AM PM		AM PM		AM PM		AM PM					
(17) REASON FOR NO MOVEMENT		(18) REASON FOR NO MOVEMENT		(19) REASON FOR NO MOVEMENT		(20) REASON FOR NO MOVEMENT		(21) REASON FOR NO MOVEMENT		(22) REASON FOR NO MOVEMENT		(23) REASON FOR NO MOVEMENT		(24) REASON FOR NO MOVEMENT		(25) REASON FOR NO MOVEMENT					
(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)		(to be filled by interviewer)					

Please Turn Over

TRIPS MADE BY OWNED VEHICLE DURING THE LAST 24 HOURS				(22) TRIP PURPOSE	(23) FACILITY OF DESTINATION	(24) PARKING FACILITY	(25)	(26) TYPE AND AMOUNT OF COMMODITY CARRIED (for van/medium lorry/heavy lorry)	
TRIP NO.	(18) ORIGIN (Name & Address)	(19) DEPARTURE TIME		(20) DESTINATION (Name & Address)	(21) ARRIVAL TIME		NUMBER OF PASSENGERS INCLUDING DRIVER	1 unladen 2 agriculture, fishery and livestock produce 3 timber and wood products 4 minerals 5 metal products, machinery and transportation goods 6 consumer's goods 7 chemical products 8 miscellaneous 1 full 2. 3/4 full 3. 1/2 full 4. 1/4 full 5. less than 1/4	
		AM	PM		AM	PM			
6		AM			AM				
		PM			PM				
7		AM			AM				
		PM			PM				
8		AM			AM				
		PM			PM				
9		AM			AM				
		PM			PM				
10		AM			AM				
		PM			PM				
11		AM			AM				
		PM			PM				

Thank you for your cooperation!

Official Use Only			
(27)	(28) Name:	(29) Interviewed by:	(30) Supervisor
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4		Name: .....	Name: .....
		Signature: .....	Signature: .....
		Date: .....	Date: .....

TEMUBUAL/SOAL SELIDIK DENGAN PEMANDU TEKSI			NEGERI JOHOR				BORANG NO.			
(1) ALAMAT		(2) ALAMAT PEMANDU		(3) UMUR PEMANDU 1. <input type="checkbox"/> 20 Kebawah 2. <input type="checkbox"/> 20 – 29 3. <input type="checkbox"/> 30 – 39 4. <input type="checkbox"/> 40 – 49 5. <input type="checkbox"/> 50 Keatas		(4) NOMBOR PENDAFTARAN KENDERAAN		(5) NAMA TEMPAT PERHENTIAN TEKSI .....		
(6) JANGKA MASA HAK MILIK 1. <input type="checkbox"/> Kurang 1 tahun 2. <input type="checkbox"/> 1 – 4 tahun 3. <input type="checkbox"/> 5 – 9 tahun 4. <input type="checkbox"/> 10 – 15 tahun 5. <input type="checkbox"/> 15 tahun Keatas	Nombor Perjalanan	(13) TEMPAT PERMULAAN (Nama dan Alamat)	(14) MASA BERTOLAK	(15) TEMPAT DITUJU (Nama dan Alamat)	(16) MASA SAMPAI	(17) TEMPAT MENURUNKAN PENUMPANG				Bilangan Penumpang
						1	2	3	4	
(7) BENTUK HAK MILIK 1. <input type="checkbox"/> Persendirian 2. <input type="checkbox"/> Syarikat 3. <input type="checkbox"/> Koperatif	1									
(8) KEGUNAAN KENDERAAN DALAM SEMINGGU 1. <input type="checkbox"/> 0 hari 2. <input type="checkbox"/> 1 – 2 hari 3. <input type="checkbox"/> 3 – 4 hari 4. <input type="checkbox"/> 5 – 6 hari 5. <input type="checkbox"/> Tiap-tiap hari	2									
(9) PURATA PERJALANAN (BATU) SEHARI 1. <input type="checkbox"/> 0 – 29 batu 2. <input type="checkbox"/> 30 – 49 batu 3. <input type="checkbox"/> 50 – 69 batu 4. <input type="checkbox"/> 70 – 89 batu 5. <input type="checkbox"/> 90 – 99 batu 6. <input type="checkbox"/> 100 batu	3									
(10) PURATA PERJALANAN (NO.) YANG DIBUAT DALAM SEHARI .....	4									
(11) SEBAB TIDAK MEMBUAT PERJALANAN ..... ..... .....	5									
(11) SEBAB TIDAK MEMBUAT PERJALANAN ..... ..... .....	6									
(12) TARIKH BANCI .....	7									
	8									

LIB