GOVERNMENT OF PAKISTAN
PLANNING COMMISSION
NATIONAL TRANSPORT RESEARCH CENTRE

***

TAXI SURVEY
LAHORE

NTRC-112

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S U M M A R Y

Taxis serve an important part of transport demand in urban areas. These are generally used by middle and higher income group and some time by the lower income strata for the conveyance of the sick, old and infirm. Unfortunately, not only the number of taxis in some of the main cities has declined in years but in the country as a whole taxi industry is faced with serious problem. As a result the quality of service has deteriorated over the years. This has attracted the attention of the highest authorities and the Cabinet in its meeting held on 4th March 1984 directed as follows:-

> "The President directed that the Ministers for Finance, Planning and development, Production and Communications should work out a scheme for improvement of the Taxi Service in the main cities of the country based on locally manufactured cars (Suzuki and Morris) through appropriate measures, like the setting up of cooperative socities for the purpose as had been done in India."

As the taxi services are entirely in the private hands, much information concerning demand, supply, cost, earning, level of service was not available with any agency. It was, therefore,unanimously decided by the federal authorities in June 1984 to entrust the task of surveying all big cities of Paksitan to NTRC.

The survey of Lahore was conducted by NTRC team in 1987. The major findings of this study are as follows:

1. National Trends: Nationally, during the ten years period (1974-83) the taxi fleet increased by a factor of 2.14 which is in line with other passenger modes such as private cars, buses. In absolute terms the number of taxicabs increased from 12,608 to 26,813. In terms of per capita availability (vehicle for 1000 people) the taxis have doubled over the ten years period and stands at 3.17 vehicles per 1000 people which is considerably higher than that found in most developed countries with higher rate of personal automobiles.

2. Structure of Industry: At the time of survey, 12,155 rickshaws and 783 cabs were operating within the city. About 65 percent of rickshaws are 12 years old and 5 percent 5 years old while 75% taxicabs are 20 years old and 25% are even older. Ownership structure of the industry is fairly equally divided between owner-drivers and others. Normally ownership has one vehicle and maximum fleet size recorded is six. Fixed cost of rickshaw account for more than 4.79% of operating cost per km which is Rs. 0.84 for all owners (contractor and owner-driver) while for cabs 7.06% of operating cost per Km (Rs. 1.58) for all owners. On the average a rickshaw runs for 169.4 Km per day and a cab 90.82 Km per day. On the whole the wages are low, working conditions poor and in many cases no profit is made at all. The driver of rickshaw makes monthly Rs. 950 to 1,050 by working 9.5 to 11.5 hours per day and cab driver makes Rs. 950 to 1,050 by working 11.40 to 13.32 hours per day. On the average all owners are not happy with the business. Majority of them are probably in this business because of lack of other employment and business opportunities.

Rickshaw is economical and useful for narrow streets/ roads of Lahore but it is uncomfortable and unsafe. Meters are mostly not installed and the passengers prefer to bargain the fare according to the length of the trip. Rickshaw and cab drivers claim to face quite a few problems, predominantly at

the hands of the police who unnecessarily harrasses them and demand gratification.

The taxi operators have no access to any institutionalized credit. Vehicles are generally secured on hire-purchase with very high interest charges i.e. excess of 3% per month. Failure to pay the instalment in time usually results in loss of the vehicle.

The concept of cooperatives never existed and no study has ever been done to explore its suitability or otherwise. Taxi is normally not comprehensively ensured and the official increase in the fare rate is normally not compatible with the increase in the price of fuel, tyres and parts, etc.

There are 42 recognized stands in the city which were surveyed. The stands are without adequate/requisite facilities like proper covered parking, bath room, waiting room and telephone booth, etc.

3. Level-of-Service: On the average Lahore rickshaw system carries some 280,824.54 passengers a day, with an average occupancy of two passengers per vehicle whereas taxicabs carry 25,817.45 passengers a day. The average journey length for rickshaw is 7.46 Kms and daily output is 169.4 Km and for cabs 3.45 passenger/vehicle. Daily Kms travelled/rickshaw is 128.12 and total annual Kms/ vehicle is 56,824. On aggregate, the rickshaw system performs some 691 million Kms per annum. The average journey length for taxicab is 7.46 Kms and daily output is 90.82 Kms. Daily Km travelled/vehicle is 70.35 and total annual Km/Vehicle is 29,425.70. On aggregate cabs perform 23 million Km Per Year. The rickshaw and cabs account for as much as 14% of the total passenger Kms carried by private transport sector including tongas, etc.

Less than 1% of taxi journeys are charged on the meter. Average rickshaw fare paid is in the region of Rs. 1.56 per Km i.e. 30% lesser than the authorized tariff (Rs. 2.25). Average fare paid for cab is approximately Rs. 2.96 per km (official is Rs. 3.00). Majority of users (64.3%) are satisfied with the fare level and over 48.33% are prepared to pay 25% more for a better service.

4. Role of Government: Unfortunately, Government does not have a clear-cut policy regarding the taxi industry. System-wide improvements are only feasible with a substantive change in taxi policy, regulation and administrative structure. In the short term, only limited improvements can be envisaged:-

(1) Four important areas are : (a) physical feasibility - enough drivers/vehicles; (b) operational feasibility - integration with other modes of transport; (c) institutional feasibility - constraints and/or barriers; (d) financial feasibility - potential costs to the City/Provincial Federal Governments.

(2) In Lahore in its present state, taxi industry is sick and is hardly profitable. Lahore may have adequate number of rickshaws but taxicabs care in short supply. The city certainly needs an industry with newer vehicles (rickshaws and taxicabs) run and managed under better regulations and yielding adequate profit to the drivers/owners.

(3) Steps need to be taken to cope with the malpractices in law enforcing agencies and regulate the operation of other transport modes like mini-buses and Rent-a-Car and formulate policy to provide a fair competition among the various modes.

(4) Credit/loan facilities should be provided by the Government at low rates/attractive terms. The taxi operators and the drivers should be given the benefits allowed to the workers in other industry.

(5) The rickshaw operators should be enouraged and guided to form companies and cooperatives for which comprehensive regulations should be formulated.

(6) A radio-controlled taxicab project should be planned and run as a research project. The authorities should instal radio system in 50 privately owned taxicabs and control the operation through a control station - set up and operated by the government. If successful, the experiment may be explained to more taxis.

(7) Government should allow duty free import of Toyota and Datsun (1000/1200 CC) cars to be used as taxis in Lahore. Initially 200 cars be allowed for a few investers each of whom wants to run a taxicab company with 25 to 30 taxicabs. These taxicab companies can be allowed to work as cooperatives.

(8) For those investers, who want to use Pakistan-assembled Suzuki Cars, should be given loan on soft terms to buy them. Also, purchase on instalments should be allowed but the rate of interest should be reasonable.

(9) Properly designed taxi stands should be constructed at suitable plans in the city. Each stand should have telephone, bath-room, waiting room for drivers and passengers, and shade for parking with controlled entry and exit.

Chapter - 1

INTRODUCTION

1.1 Background

This report contains the results of a survey of taxi operators conducted in the city of Lahore in 1987. Funded by the National Transport research Centre (NTRC), Planning Commission, this survey was directed towards the taxi operators, taxi owner-drivers, taxi drivers, passengers and government agencies in the city. Each of the said categories was asked to respond to a series of questions contained in a proforma regarding services provided, the cost, revenues, fare structure and operating characteristics of taxi services. This study is a part of a comprehensive plan to conduct surveys of cities of Islamabad-Rawalpindi, Peshawar, Lahore, Quetta and Karachi. Of these the first two have already been completed.

Taxis serve an important part of transport demand in urban areas. These are generally used by middle and higher income group and some time by the lower income strat for the conveyance of the sick, old and infirm. Unfortunately, not only the number of taxis in some of the main cities has declined in years but in the country as a whole taxi industry is faced with serious problems. As a result, the quality of service has deteriorated over the years. This has attracted the attention of the highest authorities and the Federal Cabinet in its meeting held on 4th March 1984 directed as follows:-

"The President directed that the Ministers for Finance, Planning and Development, Production and Communications should work out a scheme for improvement of the Taxi Service in the main cities of the country based on locally manufactured cars (Suzuki and Morris) through appropriate measures, like the setting up of cooperative socities for the purpose as had been done in India."

1.2 Study Objectives

As a result of decision reached in the meetings of the Research Coordination Committee (RCC) of NTRC, it was agreed with Cabinet Division's approval that, since there was a total absence of reliable information or data on which to evaluate any proposals concerning the taxi industry in Pakistan, NTRC should undertake a more thorough investigation of taxi operations, covering such important aspects as ownership characteristics, revenues, operating cost, fare structure, level of service and other related issues.

As a result of decisions reached in the Research Advisory Committee meetings the following requirements/objectives were specified:-

(1) to assess the socio-economic groups that use the taxi to determine:

   (a) option size/sizes of the taxi;

   (b) energy efficient, minimum maintenance, and sturdy economic make/makes of the vehicle that should be standardized for use as taxi;

   (c) special requirements for luggage, etc:

(2) to determine ownership pattern

(3) to examine regulations for use

(4) to examine and establish standards

(5) to evaluate need for safety of passengers

(6) to examine the tourism aspect

(7) to examine the possibility of cooperative forms of organization in the taxicab industry

(8) to examine alternatives for overall improvement of taxi services in the major cities of Pakistan

(9) to recommend policy measures for improvement of taxi services.

In this study efforts were made to accomplish as many of these objectives as possible.

1.3 Study Methodology

To achieve the above mentioned objectives, it was estimated that information and data needs to be collected on the following:-

(a) Vehicle ownership.

(b) Changes in vehicle provision rate.

(c) Changes in vehicle composition.

(d) Number of vehicle classes in operation.

(e) Operating data for taxicabs and rickshaws.

(f) Average market values of taxicab and rickshaw models in operation.

(g) Age distribution of taxis.

(h) Taxicab and rickshaw purchase prices, interest rates on hiring/purchase loan of taxicabs and rickshaws.

(i) Growth rate in the number of registered vehicles in major cities of Pakistan.

(j) Location of taxi stands in the city.

(k) Profitability of taxi operation.

(l) Manpower involved in the taxi operation.

(m) Distribution of taxi journeys and frequency of taxi use.

(n) Information on passengers and distribution of vehicle occupancies.

(o) Average fare by trip length.

(p) Average annual operation cost.

(q) Miscellaneous information.

A study team of a leader plus eight Economic Investigators/ Enumerators was sent to Lahore to collect the requisite information and data. The team was divided into four groups of two each to interview taxi owner, taxi-owner-cum-driver, passengers, taxi and rickshaw union office bearers, official of Regional Transport Authority, Police Officials and others.

The study area in Lahore was divided into a number of zones and the taxi stands were marked on the city map. Proforma given at Figure 1.1 was used to ask questions and collect the required data.

Due to problem of illiteracy and lack of habit of responding to surveys, we could not resort to interviews through letters, etc — a practice common in advanced countries. So, it was decided to interview the passengers at the time of getting-in and getting-out of the taxis. Similarly drivers were interviewed at the taxi stands. For practical reasons these interviews could not be longer than 2 to 3 minutes at a time. Interview of the union leaders and RTA officials did not pose serious problems as these were arranged for longer

Figure 1.1

Passenger Survey Form

GOVERNMENT OF PAKISTAN
PLANNING AND DEVELOPMENT DIVISION
NATIONAL TRANSPORT RESEARCH CENTRE

Form 1

NATIONAL SURVEY OF TAXI SERVICES

PART 1. SURVEY WITH PASSENGER.

1. Ask for the address at which the passenger started this journey. _____ 1-3

2. How long have you had to wait before getting this taxi? 4-5

3. How far have you had to walk to get this taxi? 6-8

4. If you had the choice would you have preferred to use another type of public transport rather than the taxi? YES ☐ NO ☐ 9

IF YES: What would have been your first preference?

BUS ..... ☐
MINI BUS ..... ☐
WAGON ..... ☐
SUZUKI ..... ☐ 10

5. What is the destination of your present journey? _____ 11-13

6. Ask the passenger if a fare has already been agreed. YES ☐ NO ☐ 14

IF YES: ask the passenger "How much will you pay?" and enter value .....

IF NO: ask the driver "How much will you charge?" and enter value .....

If fare will be charged according to meter, indicate here ..... METER ☐ 15

FARE 16-18

7. To which of the following categories do you belong?

PERMANENTLY RESIDENT IN THIS CITY ☐
TEMPORARILY RESIDENT IN THIS CITY ☐
VISITORS ..... ☐

☐ 19

Form 1/2

PART I CONTINUED

8. How often do you uses taxis?

DAILY ..... ☐

ONCE A WEEK, ... ☐

ONCE A MONTH ..... ☐

OTHERS ..... ☐ ☐ 20

9. Ask for the passenger's opinion about taxi fares in general

CHEAP	REASONABLE	EXPENSIVE

☐ 21

10. Ask for the passenger's opinion on the general standard of vehicles used as taxis.

GOOD	STATISFAC-TORY	UNSATIS-FACTORY

☐ 22

11. If better vehicles operating under radio control are introduced, will you pay more fare? .....

IF No..... ☐ 23

IF YES: Establish how much more. (CONSULT TABLE OF FOR ACTUAL VALUES)

25% MORE.....YES ☐ NO ☐ 24

50% MORE.....YES ☐ NO ☐ 25

100% MORE.....YES ☐ NO ☐ 26

Form 1/3

PART II. SURVEY WITH DRIVER

12. How is the vehicle operated?

VEHICLE IS OWNED EXCLUSIVELY BY DRIVER.(S) ☐

☐

DRIVER HAS HIRED VEHICLE FROM OWNER(S) ☐

DRIVER IS EMPLOYEE OF VEHICLE OWNER(S) ☐ 27

13. Has the vehicle been hired previously today? YES ☐ NO ☐ 28

IF YES: Ask for the address or location where the last passenger was set down.

_____

_____ ☐☐☐ 29-31

14. How long have you been waiting before picking up this passenger? ☐☐☐ 32-34

15 How many times was the vehicle hired on your last working day? ☐☐ 35,36

16. What is the vehicle model (year)? ☐☐ 37,38

PART III – TO BE COMPLETED AT END OF INTERVIEW

1. Vehicle Registration Number ☐☐☐ ☐☐☐☐ 39-45
2. Vehicle Make _____ ☐ 46
3. Number of Passengers ☐ 47
4. Location of Interview ☐☐☐ 48-50
5. Time ☐☐☐☐ 51-54
6. Date ☐☐☐☐ 55-58

(For office use only)

		Date	Pass	Rej.	Pass	Rej.
Interviewer	_____	_____	☐	☐	☐	☐
Checked	_____	_____				
Coding	_____	_____	☐	☐	☐	☐
Checked	_____	_____				
Data Entry	_____	_____				

Form 1/4

1) Why are you using the Taxi rather than other mode?

Emergency ..... ☐

Luggage ..... ☐

Time Saving ..... ☐

Regular Use ..... ☐

2) Can you tell what is distance of your present destination?

☐

duration and mostly they were very cooperative. Due to shortage of field staff the team worked in two shifts every day. It was a problem to interview the concerned police officials because most of them were not easily accessible. The forms used to conduct the interview proved quite simple and logical in their lay-out, thus facilitating the interview procedures. After the interviews the team came back to the office, the data was coded and "SNAP", survey analysis package for Apricot micro-computer way used to analyse the data and use the information to prepare relevant tables and figures.

Chapter - 2

INDUSTRIAL STRUCTURE AT NATIONAL LEVEL

2.1 Size of Industry

The taxi service as a transport mode forms an important part of transport system of major cities of Pakistan. The number of taxis per 1,000 population appears to be a function of the level of private vehicle ownership and of the level-of-service provided by stage-carriage public transport services. These rates vary from country to country depending on country's economic development and the size of the cities in question. Rates of more than 9 taxis per 1,000 have been reported for some Indian cities while these rates range from .5 to 2 for some developed countries. Analysis has been made to restraint in provision rate for largest cities of Pakistan based on vehicle registration data for the year 1974-86 as shown in Figure 2.1 to 2.7. Population data was based on 1981 Census and population for other years was interpolated. The smallest area for which vehicles registration districts are available is that of the administrative district. Since the taxis operate mostly in the urban areas the rates based on district level population do not reflect the true pictures for the cities within this district. To overcome this problem a second provision rate was calculated using the population figures for the urban areas only which provides a better estimates of actual provision rates. Provision rates have been calculated for

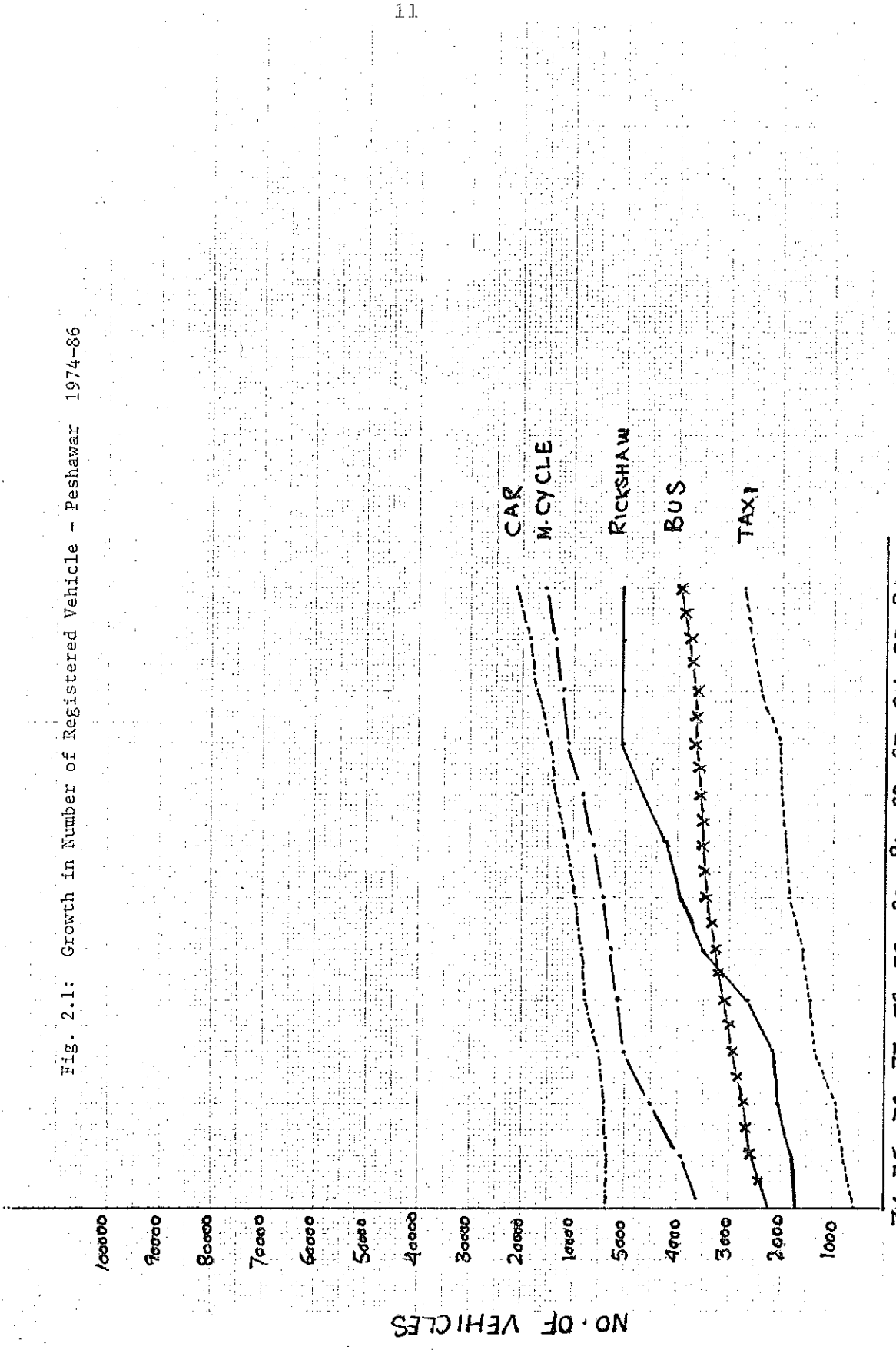
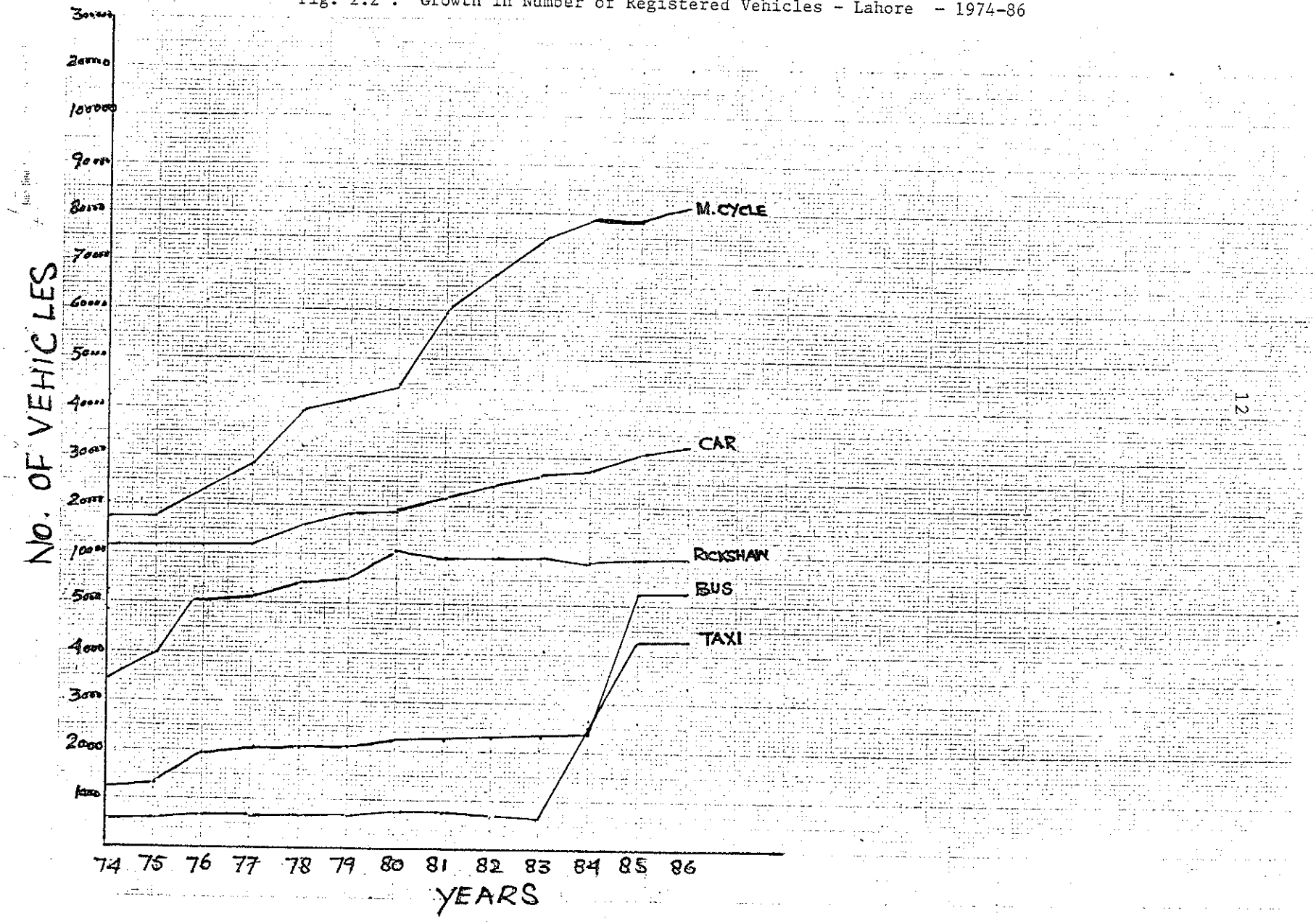


Fig. 2.1: Growth in Number of Registered Vehicle - Peshawar 1974-86

Fig. 2.2 : Growth in Number of Registered Vehicles - Lahore - 1974-86



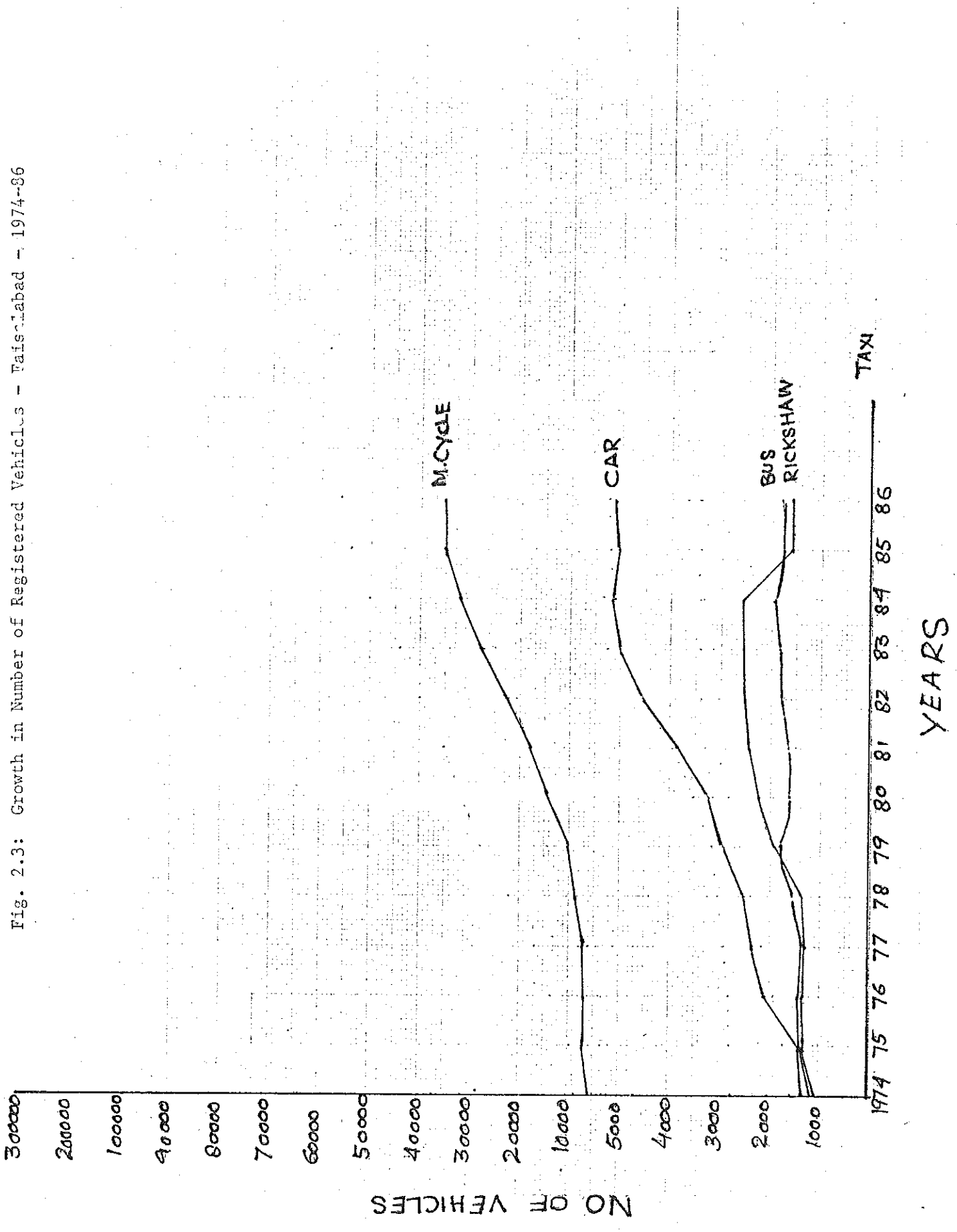


Fig. 2.3: Growth in Number of Registered Vehicles - Faisalabad - 1974-86

Fig. 2.4: Growth in Number of Registered Vehicles - Rawalpindi - 1974-86

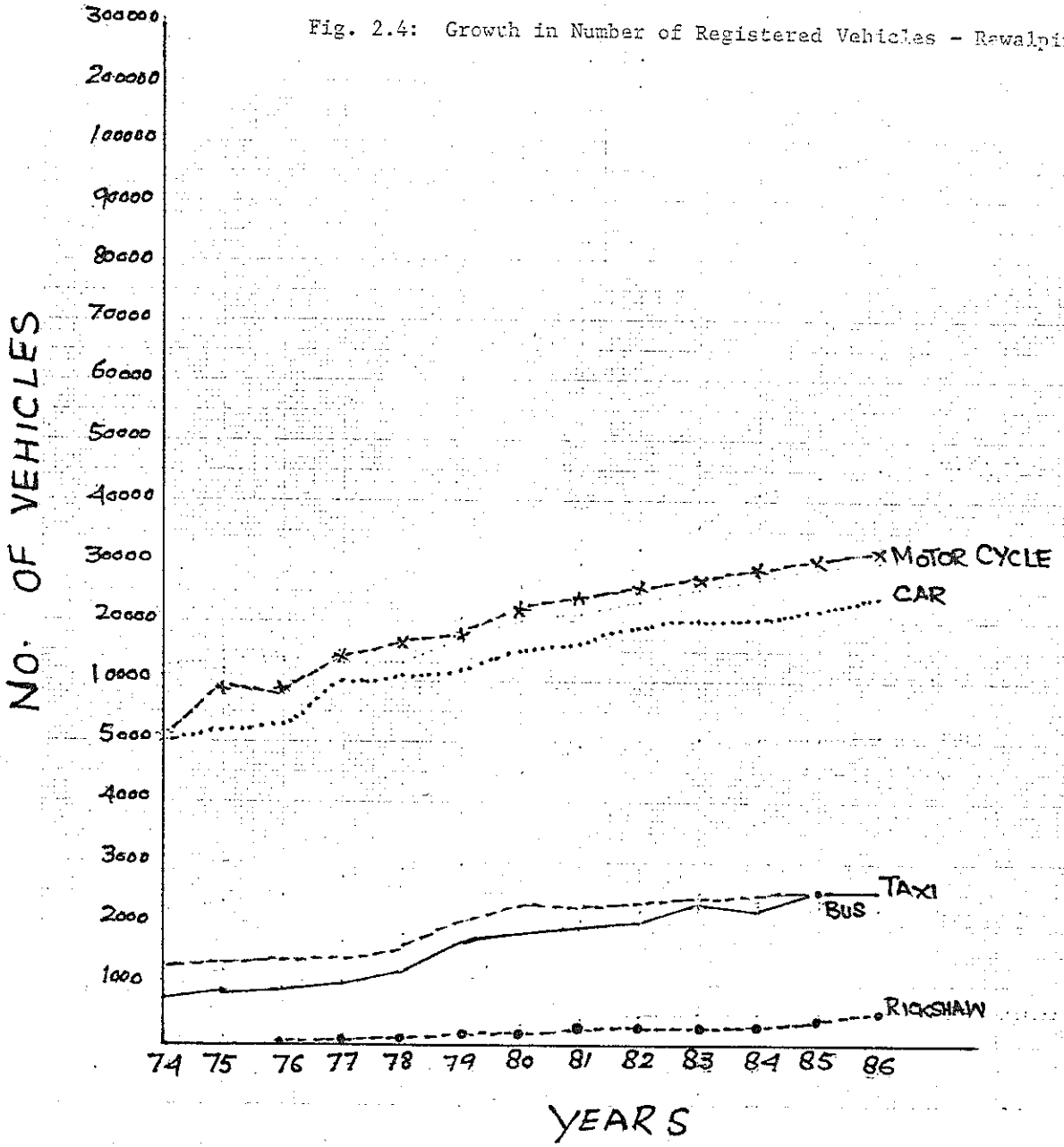
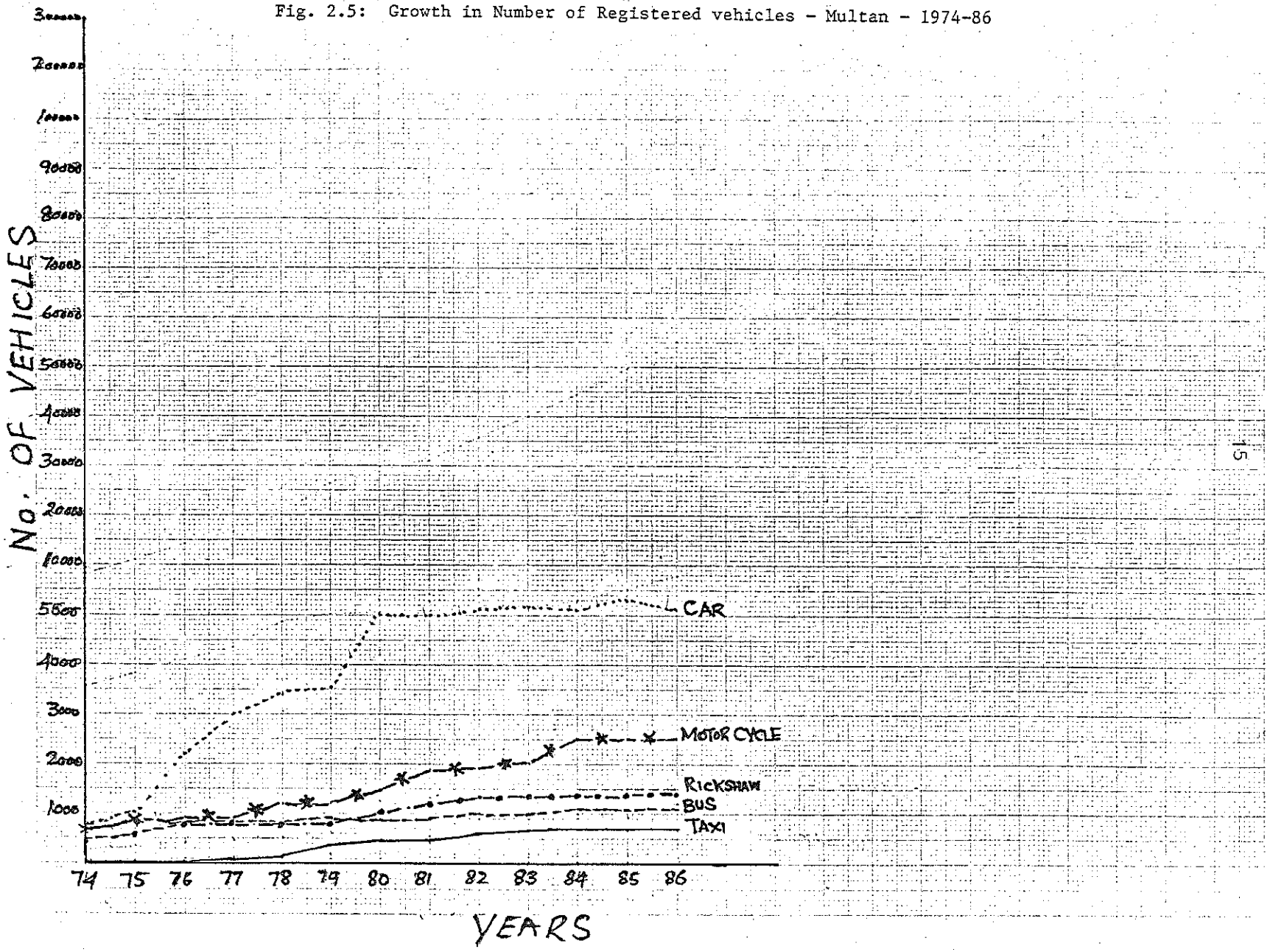


Fig. 2.5: Growth in Number of Registered vehicles - Multan - 1974-86



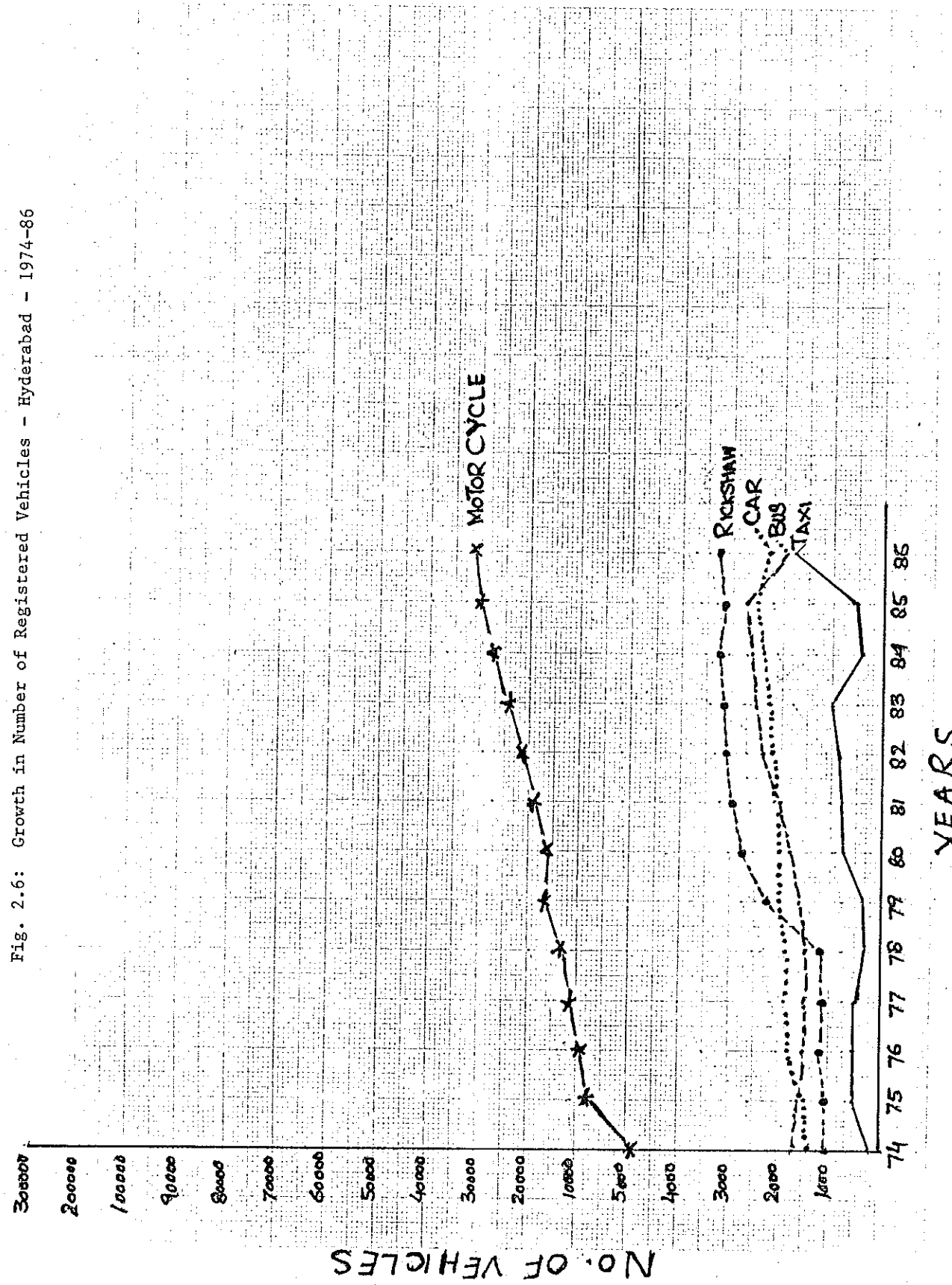
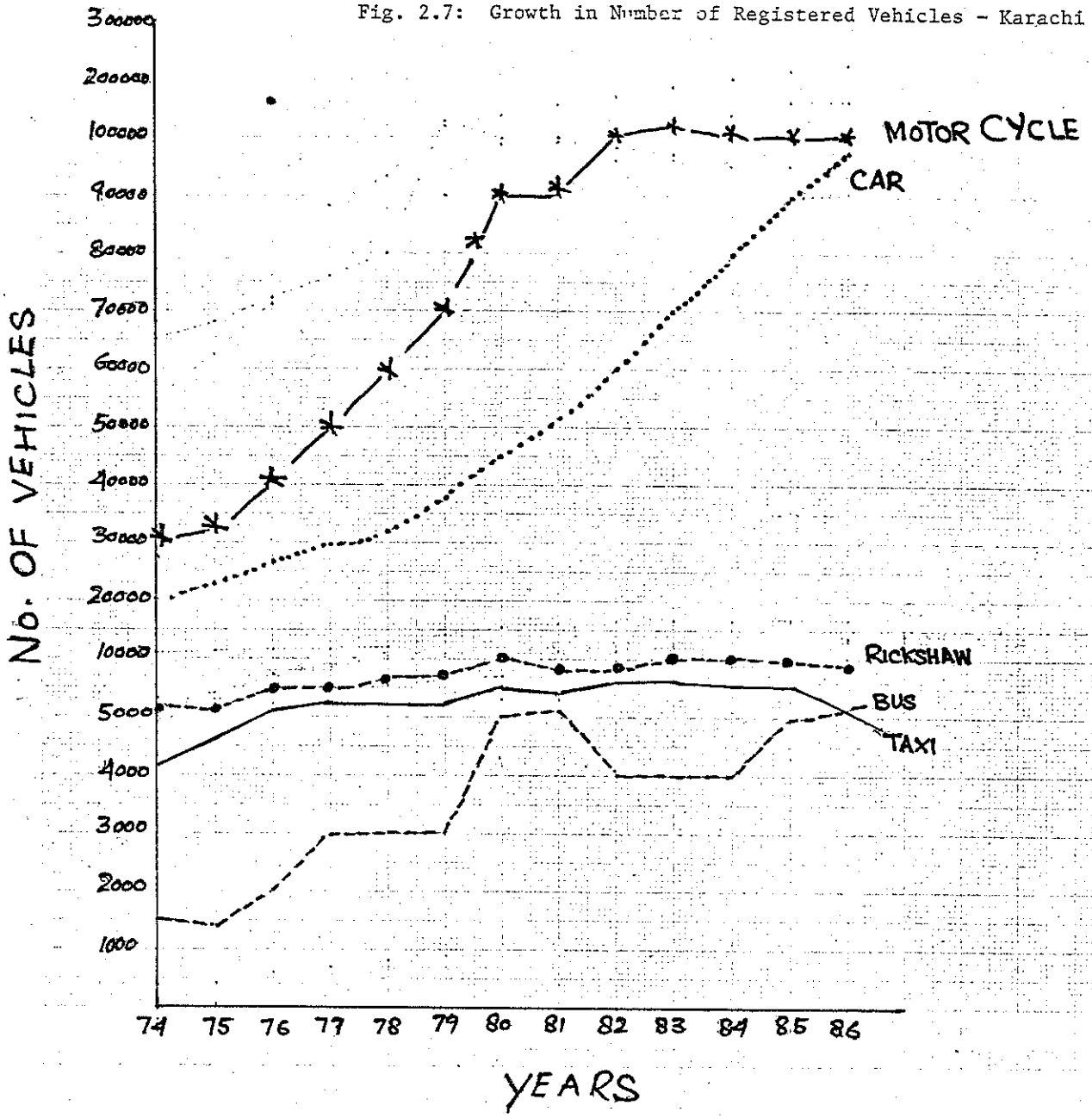


Fig. 2.6: Growth in Number of Registered Vehicles - Hyderabad - 1974-86

Fig. 2.7: Growth in Number of Registered Vehicles - Karachi - 1974-86



two years: 1974 & 1981 (Table 2.1 that the 1974 population estimates interpolated on the basis of constant average annual growth rate over the inter-census period 1972-81. Lahore have rickshaws, taxicabs and tongas, in addition to the public bus system and private suzukies/wagons.

Combining the two private modes (motor-cycle and motor car) and the two taxi modes (taxicab and rickshaw) for the urban population gives the set of relationships in Table 2.2.

Looking first at the 1974 combined taxi provision rates (Table 2.2) we see that apart from those for Lahore there is reasonable homogenity, varying from 1.26 to 5.24 vehicles per 1000 population with an average of 1.58 for all the urban areas included. Seven years later we see a virtual doubling of the rate in all cities to show a 1981 average of 3.17 vehicles per 1000 population. By 1986 the average rate declined from 3.17 to 3.12. Taxis have increased during 1981-86 period in Lahore, Multan, Rawalpindi, and Hyderabad but decreased in other three cities (Faisalabad, Karachi and Peshawar). In the same period, private vehicle ownership rates more than doubled (from 20.78 to 44.09), indicating that there has been a phenomenal increase in urban mobility over this period (even assuming that the use of vehicles has been constant) but the number declined to 42.96 in 1986 from 44.09 in 1981.

One further feature requiring comment is the mix of vehicles used in the taxi sector. Here we see a great deal of haterogenity in the data; both in the terms of the proportional

Table 2.1

VEHICLE OWNERSHIP RATES - MAIN CITIES OF PAKISTAN

a) 1974

(vehicles per 1000 population)

	M. CYCLE		CAR		BUS		RICKSHAW		TAXICAB	
	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN
PESHAWAR	1.02	5.70	2.00	11.18	0.71	4.00	0.77	4.33	0.16	0.91
LAHORE	6.22	7.43	4.01	4.79	0.45	0.54	1.23	1.47	0.22	0.26
FAISALABAD	1.94	9.61	0.30	1.50	0.30	1.51	0.25	1.25	0.003	0.01
RAWALPINDI	3.54	9.88	3.59	10.03	0.70	1.95	-	-	0.47	1.32
MULTAN	2.35	13.53	0.54	3.13	0.20	1.16	0.21	1.24	0.02	0.11
HYDERABAD	2.82	7.44	0.82	2.16	0.99	2.62	0.62	1.64	0.20	0.54
KARACHI	7.89	8.14	5.27	5.44	0.40	0.41	1.48	1.52	1.09	1.13

b) 1981

(vehicles per 1000 population)

	M. CYCLE		CAR		BUS		RICKSHAW		TAXICAB	
	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN	DIST.	URBAN
PESHAWAR	2.97	12.04	3.82	15.46	1.13	4.57	1.73	7.01	0.72	2.19
LAHORE	17.03	20.47	6.19	7.44	0.65	0.78	2.76	3.31	0.21	0.26
FAISALABAD	5.05	21.57	0.83	3.55	0.36	1.54	0.52	2.25	0.007	0.03
RAWALPINDI	11.66	30.73	7.95	20.95	1.08	2.85	0.12	0.32	0.84	2.23
MULTAN	4.87	27.17	1.35	7.57	0.23	1.29	0.29	1.64	0.10	0.58
HYDERABAD	9.21	24.11	1.02	2.67	0.97	2.53	1.47	2.85	0.41	1.07
KARACHI	17.11	17.95	15.78	16.55	1.09	1.15	1.84	1.94	1.49	1.56

Table 2.2

Combined Taxi and Other Vehicle Modes

(Vehicles per 1000 population)

	TAXI VEHICLES				OTHER VEHICLES			
	1974	1981	1986	1987	1974	1981	1986	1987
Faisalabad	1.26	3.28	1.28	1.60	14.85	36.13	50.40	62.25
Lahore	1.73	3.56	4.04	4.81	14.36	34.48	45.64	56.06
Multan	1.35	2.22	2.40	2.75	21.47	53.39	61.45	70.77
Rawalpindi	1.32	2.55	2.67	3.12	22.33	59.58	70.41	81.43
Hyderabad	2.18	4.92	5.68	6.84	19.90	45.50	52.38	59.26
Karachi	1.65	3.5	2.67	3.56	17.01	40.55	41.50	42.45
Peshawar	5.24	9.2	7.61	7.50	35.52	39.02	78.92	90.38

share of taxicabs and rickshaws in each city and in the way the provision rates of each vehicle type have changed the period in question.

In 1981 the Federal Bureau of Statistics (FBS) carried out a survey of the transport industry in all the major urban areas (Federal Bureau of Statistics 1983). According to this source the number of vehicles of different types at the time of their survey is given in table 2.3 where we can see, for example, that Lahore there were 7555 rickshaws (as against nearly 9695 according to ETO) and 340 taxicabs. Using FBS figures the overall provision rate for Lahore in 1981 would be in the region of 19.02 vehicles per thousand population; a rather more plausible figure. In 1987 the ETO record showed 17,200 rickshaws but 9698 were on road and 3616 taxis but 4960 were on road. There are also very significant differences in the vehicle numbers reported for other cities; the number of taxicabs in Karachi is put at some 60% of the ETO figure, those in Lahore at 50%, whilst the number quoted for Rawalpindi is nearly double than given in the ETO's vehicle registration statistics.

Taking the data at their face value we see that industry output varies between cities and also between vehicle types. In Rawalpindi and Lahore, rickshaws performed 30% and 50% more Kms daily than the taxicabs, but not as many as the rickshaws of Peshawar where there are no taxicabs to compete. In Karachi, taxicabs covered 13% more Kms daily then their rickshaw counterparts.

Table 2.3

NUMBER OF VEHICLES OF DIFFERENT CLASSES IN OPERATION IN 1981

TYPE OF VEHICLES	LAHORE	RAWALPINDI	PESHAWAR	QUETTA	KARACHI
BUSES	2,920	965	1,195	190	1,375
MINI BUSES	1,745	980	1,355	86	2,890
TRUCKS	1,435	3,555	5,365	1,405	5,545
MINI TRUCKS	1,430	-	-	125	2,960
TAXIS	340	3,085	-	15	4,740
RICKSHAW	7,555	320	3,000	1,500	9,360

Source:
Federal Bureau of Statistics 1983

Distance covered annually ranged from 25,000 Kms for taxicabs in Lahore through to 67,000 Kms for rickshaws in Peshawar. Total operating costs ranged from Rs. 0.51 to 0.74 per km for rickshaws and from Rs. 0.87 through to Rs. 1.30 per km for taxicabs. Costs were put at approximatey 50% of revenue for rickshaws and at about 60% for taxicabs.

Finally, the study reveals that everywhere, the ownership pattern of the whole taxi sector is dominated by owner-drivers, each typically owning one vehicle.

It is a not uncommon feature for informal or parallel (unlicensed) operations to exist side by side with the licensed taxi trade. understandably, it is often difficult to quantify the scale of these operations, but it is known that in cases where strict (and unreasonable) quantity controls are enforced, the informal sector may be larger than the formal (this is so in New York City).

In Pakistan an informal sector is known to operate, but there is no reliable knowledge as to how extensive the scale of operation is. In the Islamabad/Rawalpindi study area there are two ways in which this sector operates. The first is through the medium of hire-cars, which may or may not be licensed as such, and which operate from the airport and the better class hotels. Hire-cars may also be found in other central city locations where they seem to be used primarily for longer-distance journies. The second mode of operation is that of the 'pirate' taxi;

the private car owner who seeks to supplement his income by picking up fares at places like the airport and other such locations where control is lax. Although both these practices are known to exist from the research carried out in this study, it has not proved possible to quantify them. We can conclude however that they appear to be conducted only on a relatively minor scale in Rawalpindi/Islamabad, but would appear to be more prevalent in cities such as Peshawar and Lahore where the number of taxicabs in the licensed sector is very small in relation to the size of the city.

2.2 Trends in Industry

Nationally, during the ten years period (1974-83) the taxi fleet increased by a factor of 2.14 which is in line with other passenger modes such as private cars, buses. In absolute terms the number of taxicabs increased from 12,608 to 26,913. In terms of per capita availability (vehicle for 1000 people) the taxis have doubled over the ten years period and stands at 3.17 vehicles per 1000 people which is considerably higher than that found in most developed countries with higher rate of personal automobiles.

There are many reasons why taxi operating charactertistics are a public policy concern. Privately owned and operating, the taxi industry is an important but vulnerable segment of the urban

transportation sector. The number of passengers it carries is comparable to the public transit industry. It also provides a variety of other regular and emergency services at all hours and in many communities too small to support bus service. Because it is located in the private sector, the taxicab industry is vulnerable to adverse economic conditions brought on by rising costs and governmental subsidies to its competitors. As a result, it is widely reported that the industry is declining in size and attempting to cut costs by switching from employee drivers to owner and lease-drivers.

These trends, if true, are a matter of interest to policy makers concerned with urban transportation. A decline of the industry means that many smaller cities and towns are likely to be left with no taxi service and taxi-dependent persons will suffer. As real fares rise, many of these same persons are likely to be unable to afford exclusive-ride taxi service if it is available.

How policy makers respond to these changes is uncertain and will no doubt vary from place to place. Some of the cities/provinces may respond by changing local taxi ordinances in significant ways. others may take steps like encouraging public agencies to contract with taxi operators rather than to set up services which compete with them. Still other city and provincial governments perhaps uncertain of how to respond — do nothing and watch as the industry changes.

The problem of knowing how to respond to these changes is in a large way a result of poor information about the taxicab industry. Is the industry declining in size? Are operators switching from employee-drivers? Is the industry size structure changing? These are but a few of the questions upon which public policy must be based.

There has been a trend in certain cities for the rickshaws to gain ascendancy over the taxicab. It is estimated that the net annual operating revenue for the two types of vehicle is about the same, (except in Karachi) but operating costs for rickshaw are only ½ to 2/3 for that of the taxicab. Since the authorised fare for rickshaw are also lower which could be the cause for this trend.

The reduction in the number of taxicabs in Peshawar and Quetta could be as a result of competition with the rickshaws. The number of taxicabs has also decreased in Lahore and would have decreased in Islamabad-Rawalpindi if it had not been for the policy to restraint the number of rickshaws and prohibit them all together from operating in Islamabad.

2.3 Legal and Administrative Framework

Government regulation of the transport sector is common, but the reasons for it are not always well defined

and they may, at times, be contradictory. Regulatory measures may be intended to achieve a wide range of objectives:

- To contain monopoly power, such as that of railways not faced with any effective truck competition.
- To control "excessive" competition, particularly in road transport.
- To ensure the financial viability of public or parastatal transport enterprises.
- To assist groups considered to be meritorious or needy.
- To integrate transport more closely with broader policies such as land use or industrial development.
- To reflect real economic costs in transport when the market mechanism fails to do so.
- To improve transport coordination among a multiplicity of independent investors or suppliers.
- To protect highways, bridges, and other public infrastructure from overloading or abuse.
- To ensure safety in transport.
- To protect the environment.

The regulatory instruments used in support of these multiple ends include restricting certain activities to a limited number of enfranchised operators, fixing passenger fares and freight rates, requiring certain services to be provided even though they are not financially viable, and establishing standards for safety, noise

levels, and exhaust emissions. There is no realistic alternate to regulation for purposes of safety, health, protection of the environment, and protection of public facilities. But attention must be given to how cost-effective, how practical, and how enforceable the regulations are. Given the difficulties of devising regulations that will have the desired effects, and implementing and enforcing them, they should be used sparingly and with great care.

Regulating the conditions of doing business in the private sector is, however, a different matter. In general, where competitive markets exist, or would exist in the absence of regulation, efficient operations and sound investment decisions have been achieved best by allowing the supply of transport services to be matched to demand through the price mechanism. When governments restrict entry of competitors into an activity and set prices for services, they interfere with the normal adjustment mechanism, usually without having a valid economic or statistical basis for ensuring a better result. These arguments apply with particular force to the regulation of road transport. It is sometimes contended that because entry into the industry is easy (enterprises owning one or a few trucks, buses, or taxis are common) free competition would be ruinous to operators and make service less reliable; the industry, therefore, needs to be controlled as protection against itself. Experience does not support this contention. When road transprot operations have been left to the marketplace, consumers have benefited from the lower prices induced by competition, capacity has adapted to demand, and the industry has generally thrived.

It is normal practice, virtually the world over, for governments to regulate thw rokings of the taxi industry in some way. Governments may grant monopolies to individual operators, or to groups of operators, they may impose restrictions on territories to be covered, they may impose controls governing vehicle types and standards (quality controls), controls on the maximum number of vehicles allowed to operate (quantity controls). They may also regulate fares.

The Government of Pakistan has reserved to itself similar powers. The legal basis upon which the industry in Pakistan is founded is determined by a body of legislation based on the Motor Vehicle Act of 1939, the West Pakistan Motor Vehicle Rules (1969) and Provincial Motor Vehicle Ordinance (XIX of 1965) and subsequent ordinances and regulations largely concerned with amendments to the financial provisions contained within the original legislation.

The legislation admits two types of vehicle for use as taxis:

- The motor taxicab which may carry upto 5 passengers.
- The motorcab rickshaw; a three wheeled vehicles which should not exceed 900 lbs weight and be designed to carry not more than two passengers.

The taxi is classified as a Public Service Vehicle(P.S.V) and as such the owner and driver have to satisfy certain conditions before being allowed to operate for hire.

a) The driver must have a driving license which has been countersigned as authorizing him to drive a P.S.V. To drive a taxicab he must have held a motor car driving licence for atleast one year. In this respect a motorcab is distinguished as a separate class of vehicle

and in order to qualify for a PSV endorsement to his driving licence the prospective taxi driver must satisfy the examiner as to his character and absence of criminal antecedents. He must also pass a test on the geography of the city in which he intends to operate.

The authority which administers this test in the same as that which grants the licence, i.e. the Traffic Police.

A licence to drive a motorcab/rickshaw as a PSV may be granted without the driver first possessing a car driving licence. There is in fact no class of 3-wheeled vehicles given in the first schedule of the Motor Vehicles Ordinance (which defines the types of vehicles for which licences to drive shall be granted). The legislation is not clear on this point, but it is generally assumed that the rickshaw driver should have a licence valid to drive a motor cycle.

Every PSV driver is required to be issued with a driver's badge and registration number by the Regional Transport Authority (RTA), an agency of the Provincial Government.

b) The owner of a taxi must obtain a route permit from the Regional Transport Authority. To qualify for such a permit the owner must for each vehicle, complete an application form, pay the appropriate fee and produce a certificate of fitness issued by the Motor Vehicle Examiner (MVE) and an insurance certificate.

- The RTA may limit the number of permits to be issued in any one area (Rules 58) and refuse to grant a permit if that maximum number has been reached.
- The RTA may impose a condition, limiting the validity of the permit to a particular urban area.
- The permit has to be renewed periodically. In the case of Rawalpindi/Islamabad, the RTA requires renewal at three yearly intervals; the maximum interval permissable.

c) A motor vehicle fitness test is required every six months. The purpose of this test is to ensure that the vehicle complies with the provisions of the motor vehicle fitness rules and it is conducted by a Police Officer who is designated as Motor Vehicle Examiner. Taxis must be fitted with a taxi meter and the legislation specifically requires the meter to be tested and sealed by the MVE.

The determination of taxi tariffs is the responsibility of the Provincial Government, and in the case of the Punjab, different rates are specified for taxicabs and rickshaws.

Other isolated provisions having specific reference to taxi operations are to be found within the body of legislation dealing with such items as the size and placing of letters of the word 'Taxi' which must appear on each vehicle, the duties of owners to supervise their employees, and the designation and use of taxi ranks.

CHAPTER - 3

INDUSTRY STRUCTURE FOR CITY OF LAHORE

3.1 Introduction

NO previous study or reliable statistics about the taxi industry in Lahore is available. In recent years, the growth in taxis and hire cars in Lahore has been in remarkable contrast with other sectors of local passenger transport, particularly with the buses owned and operated by the Government and private organizations characteristics of the bus industry. Very little, however, is known about the economics of these sectors which are not adequately regulated and therefore, even the overall scale of activity is much in doubt.

The present survey has been proposed to collect data regarding the taxi industry in Lahore which could form the basis for the planners and the policy makers to stream-line the working of this industry. We are concerned with several related issues. A few taxi trades even in the developed world lack in quantity control over the entry or exit of taxis, producing a uniform special vehicle, and on the drivers. London's Taxi trade may be an exception where the industry is much better organized qualitatively and quantitatively. The Londons' industry requires from drivers high standard of previous conduct and specialised knowledge of London. The bearing of these features of the competition between the taxis and other modes, and honest capacity of adopting

to changing economic circumstances, is of great interest in formulating urban transport policy which is considered of outstanding importance in the range of transport issues.

A number of factors have combined to create noticeable changes within the taxi industry in recent years. Many of these factors are external to the industry. Increases in operating and capital cost, particularly cost of fuel, insurance, replacement parts, and new vehicles, have greatly distorted the industry cost structure. New public transit policies and programmes have altered the market served by taxi operators. And in several instances, the regulatory environment of the industry has been changed, with changes in fare schedule and operator entry in the city. In response to this and perhaps other facts, the taxi industry has also undergone what appeared to be substantial internal changes in the way, the taxi industry is organized and operates in this city. There are no traditional taxi companies in this city. Some taxi owners employed drivers on commission basis but practices like lease-driver and owner-driver are on the increase .

We believe, these arrangements and other operating practices represent significant changes in the industry which deserve the attention of all persons concerned with the continuation of taxi service as an important part of transportation network. It is important for the taxi Industry.

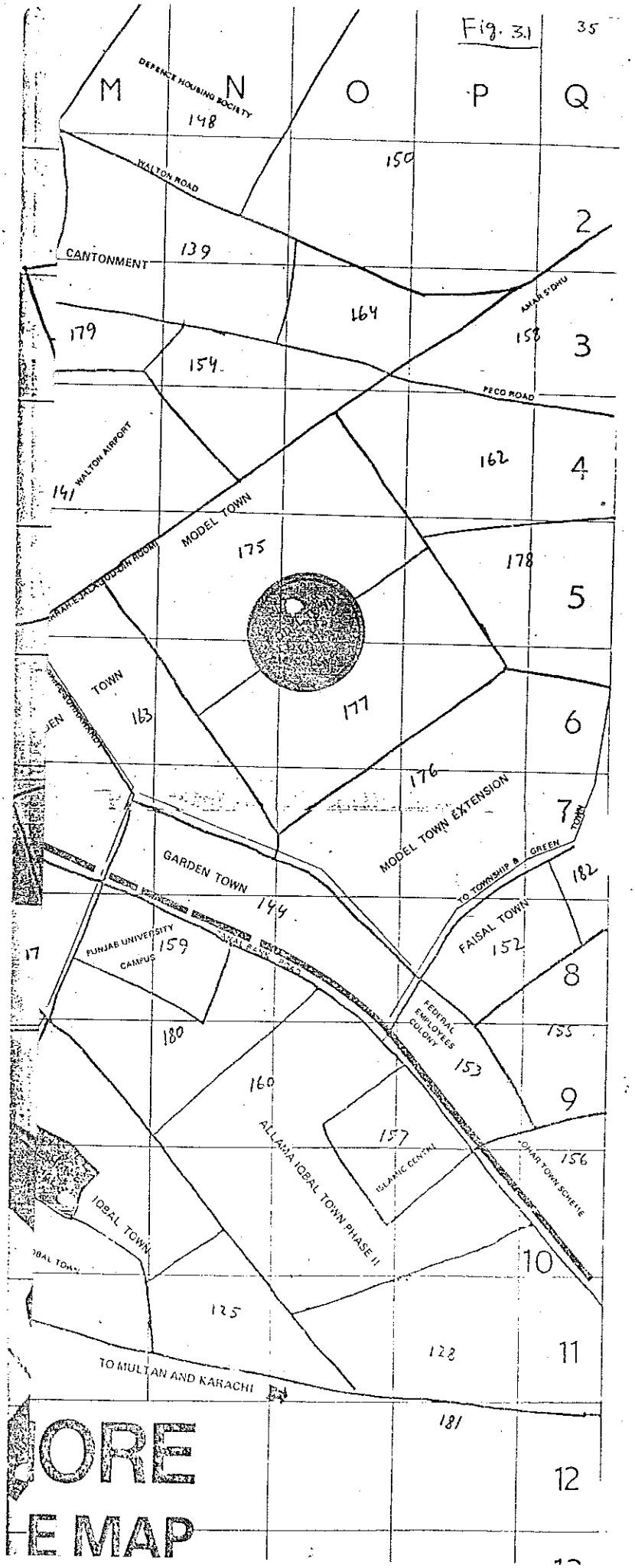
transit policy planners, and local regulatory policy makers to understand the existing situation so that plans could be formulated and implemented to improve the taxi industry in this city.

3.2 Coding and Analysis of Data:

The study team collected the data on taxi industry in the city of Lahore as per methodology and procedure mentioned in Chapter-1. For the purpose of this study the study area was divided into 182 zones (Figure 3.1).

The questionnaire data, collected as a result of interviews, was transferred to the coding sheets, analysed using "SNAP" package and was used to tabulate the vehicle operating cost. The location of official taxi stands in the Lahore city is shown in Figure 3.1(a).

Fig. 3.1



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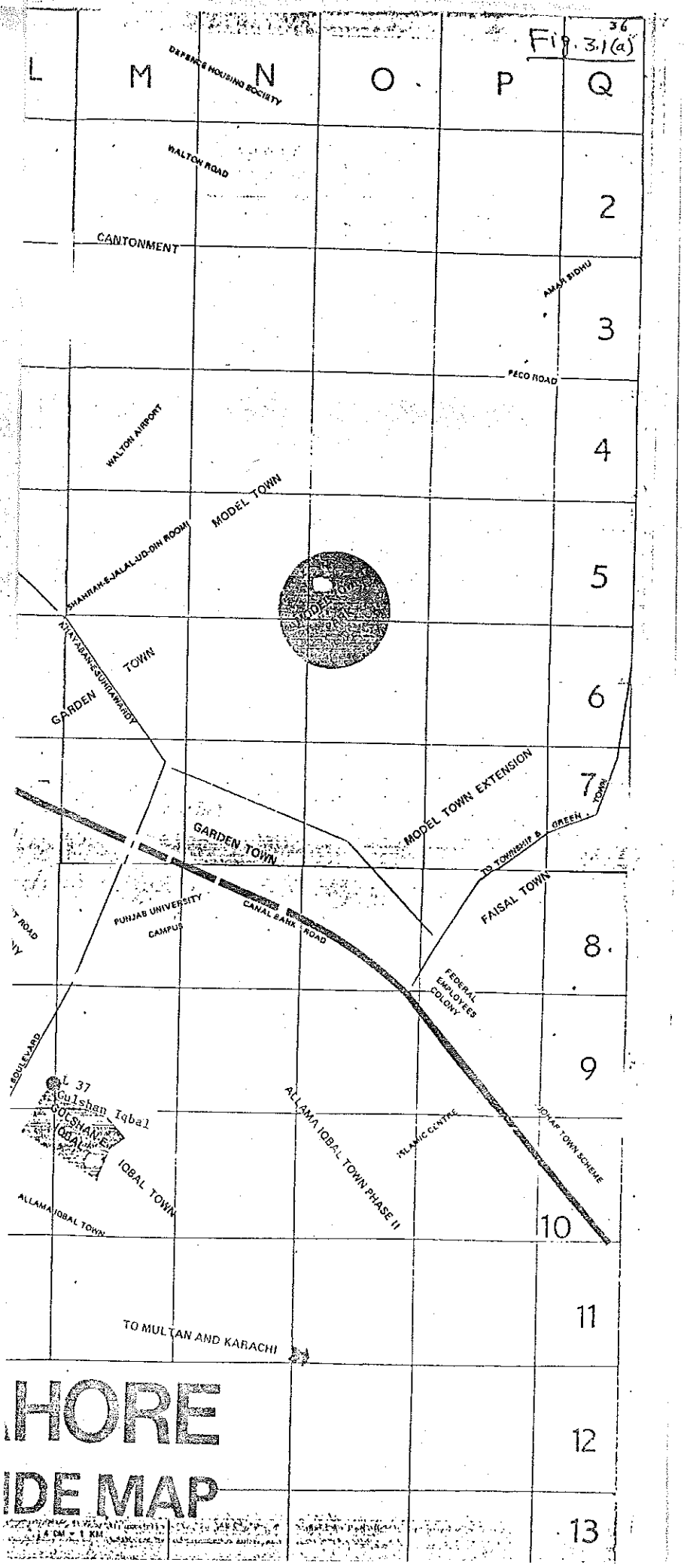
E MAP

Fig. 3.1(a)



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3.3 Manpower

3.3.1 Introduction:

For comparison sake the basic characteristics of taxi industry work force, in USA are shown in the table 3.1 below:

Table 3.1
Workers by Category, 1981

Category	Percent of Workers	Percent of Drivers
Managerial, Office, and Maintenance.	12.6	N.A.
Drivers:		
Commission	33.4	38.6
Hourly	2.9	3.3
Lease	41.8	48.3
Owner-Drivers	8.5	9.8
Others	0.8	N.A.

Source : [8]

The industry in USA obviously depends upon its drivers: 86.6% of the workers are drivers. Among these drivers, 41.9% are employees, and 58.1% are independent contractors. In USA, taxi industry presents a major employment opportunity for minority workers. In all, 35.9% of operators lease to at least some of their drivers. Leasing is proportionately more prevalent in larger cities — 64.3% lease drivers and 35.7% commission.

In USA, while only 8.9% of the taxi organizations are unionized, the percentage of the work force which is unionized is 34.1 per cent. Managerial, office, and maintenance workers are slightly less unionized (31.0%) than are drivers (34.3%).

Among commission drivers, 51.0% are unionized while for hourly lease, and owner-drivers the unionization rates are 12.4%, 28.3%, and 19.4% respectively.

The amount of driver turnover can be measured by the length of time that drivers have worked for the organizations for which they are now employed. In USA, drivers show a fairly uniform distribution of longevity: 30.0% have worked for their organization for one year or less; 20.8% for between one and two years; and 26.1 percent for over four years. The mean length of time with the organization is 46.7 months, and the median is 24.4 months. In USA, the taxi industry uses marketing advisors or consultants to a very minor degree; only 5.9% of the organizations report using these outside specialists. Among the drivers who are paid a commission of total revenues, there is relatively little variation in the commission rates paid to new drivers. In fact, 46% of the operators who have commission drivers start their new drivers at 40% commission. The mean commission rate is 41.1%. Only 16.6% of the organizations employing commission drivers increase their commission rates with a driver's seniority.

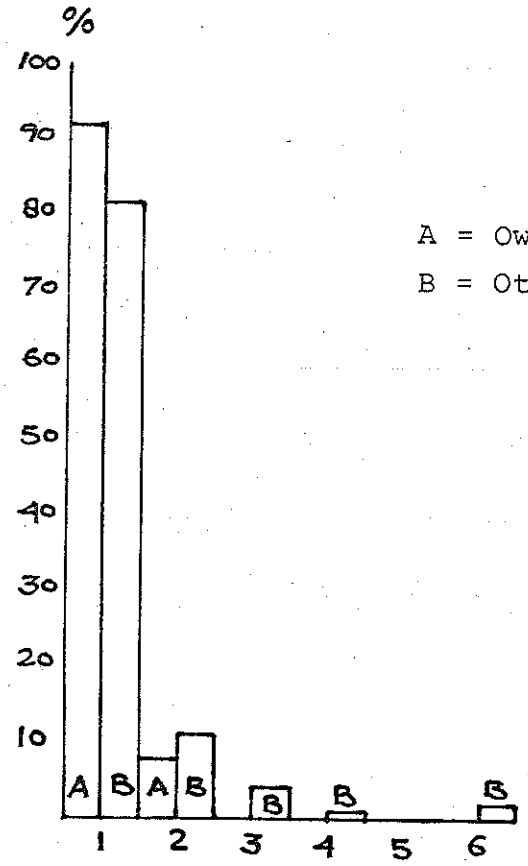
3.3.2 Lahore City:

3.3.2.1 Owners: In addition to the taxicabs and rickshaws other means of transport in the city are wagons, tongas, and buses. Our survey covered the organizations and ownerships structure of the taxi industry — number of vehicles owned

by operators,owner's view on profitability of the business, the nature of contracts between owners and drivers, and working conditions (practices and problems) of the work force. In Lahore, there are only two modes of operation of any significance — the owner-driver, and the other owner i.e. contractor who leases his vehicle(s) or employs a driver on commission. Figure 3.2 shows that over 92% owner-drivers own just one rickshaw and no one owns more than two rickshaws while about 81.7% contractor-owners own just one vehicle we come across just 2% other owner, have 6 rickshaws. And 100% owner drivers and contractors are owning one taxicab. Figure 3.3 shows the time period of the two categories of owners of rickshaw and taxicabs (i.e. owner-driver and the contractor) have been in this business. From Figure 3.3(a) we observe that to start with 2% of rickshaw owner-drivers stay in business for less than a year, 1% for one year, 3% for two years, 4% for three years, 4% for four years, 4% for five years and so on. In case of rickshaw contractors these figures are 1% for less than one year, 3% for one year, 6% for two years, 8.8% for three years, 5% for four years, 7.8% for five years, etc. For taxi owner (Figure 3.3(b)), 4% stay for one year, 4% for two years, 8% for six years and so on, and for other-owner, 2.4% for two and three years, 4.8% for four and five years and 2.4% for 6, 7 and 8 years. Figure 3.4 shows the percentage of owners wishing to leave the industry as a function of the length of time in business. Maximum number of owner-drivers (15%) want to quite after 13 years in business. Other owners (12%) want to quite after 11 years.

FIGURE 3·2 No. of vehicle owned.

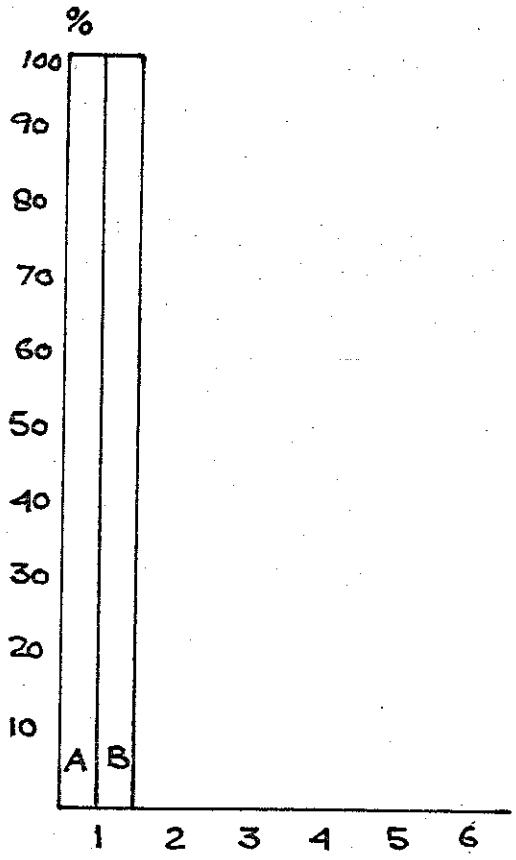
Rickshaw



A = Owner-Driver
B = Other-Owners (Contractors)

No. of Rickshaws owned.

Taxi



No. of Taxi

FIGURE 3.3 DISTRIBUTION OF PERIOD AS TAXI OWNER

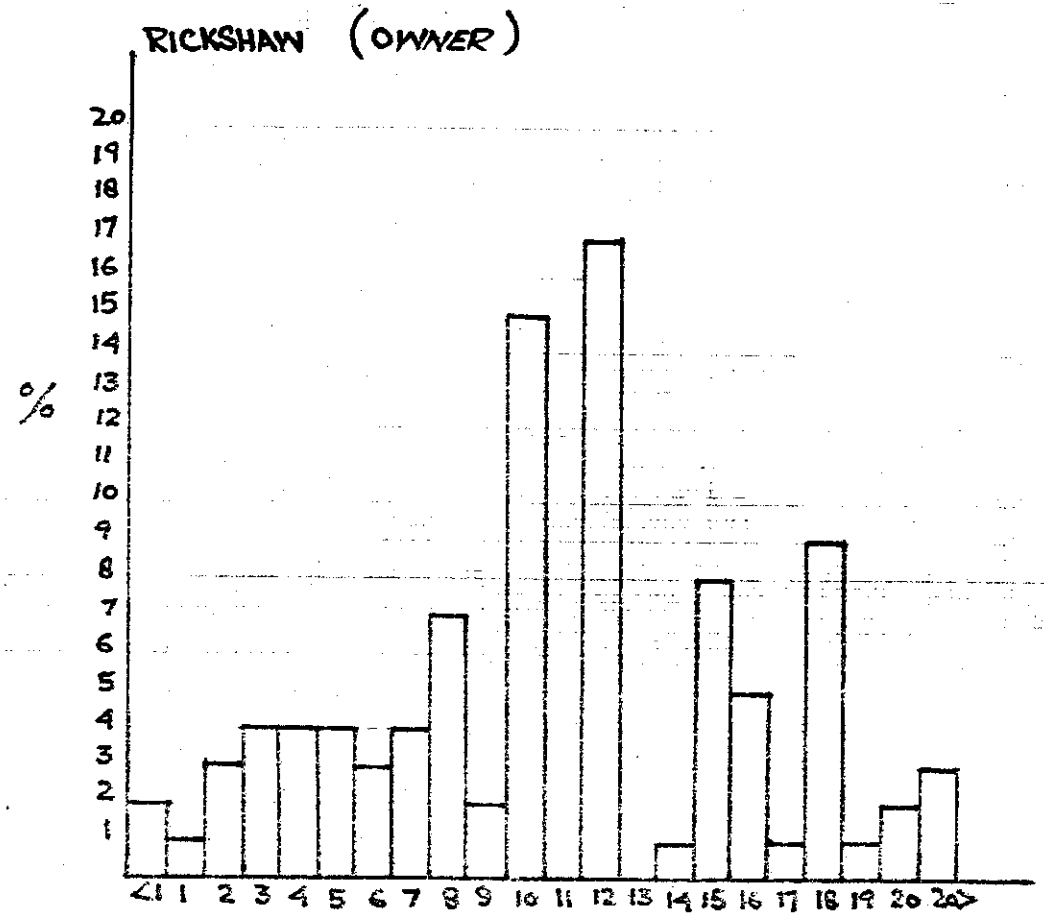


FIGURE 3.3(a) DISTRIBUTION OF PERIOD AS TAXI OWNER

RICKSHAW CONTRACTOR

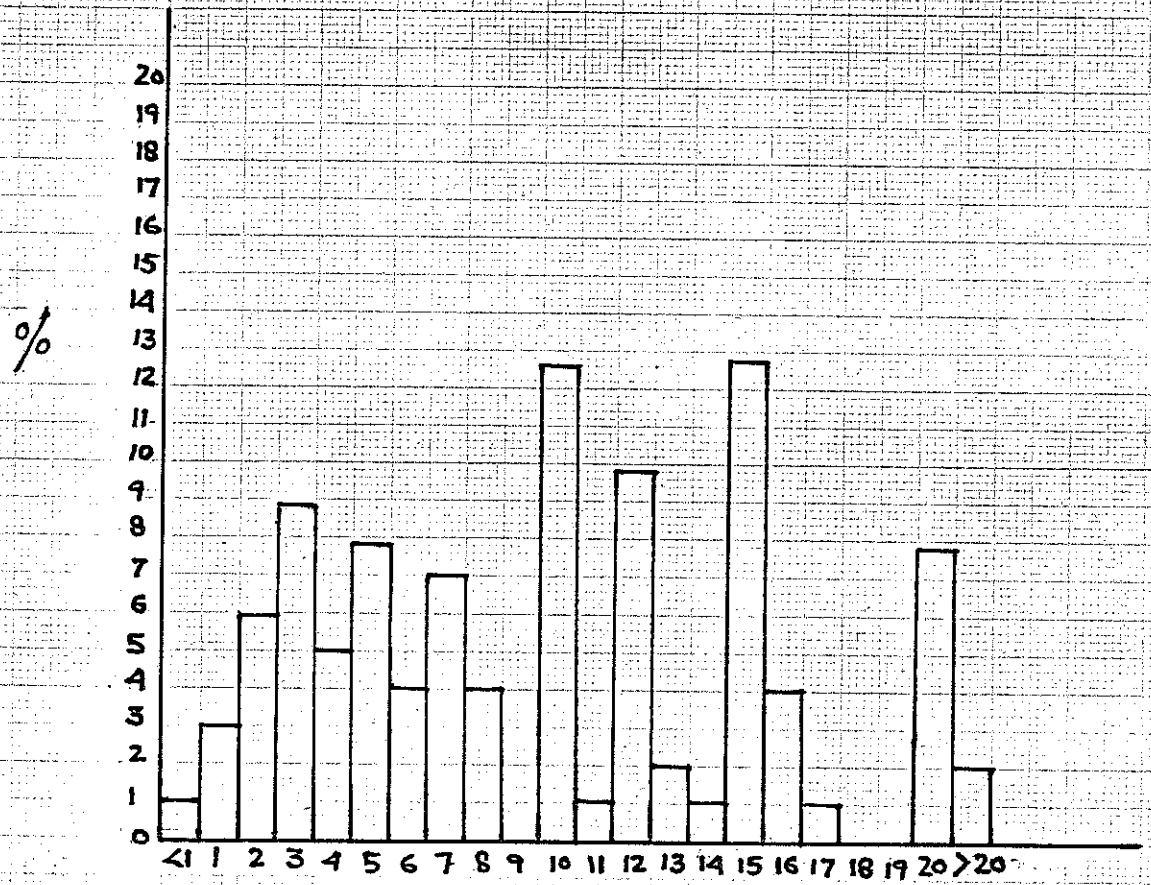


FIGURE 3.36 DISTRIBUTION OF PERIOD AS TAXI OWNER

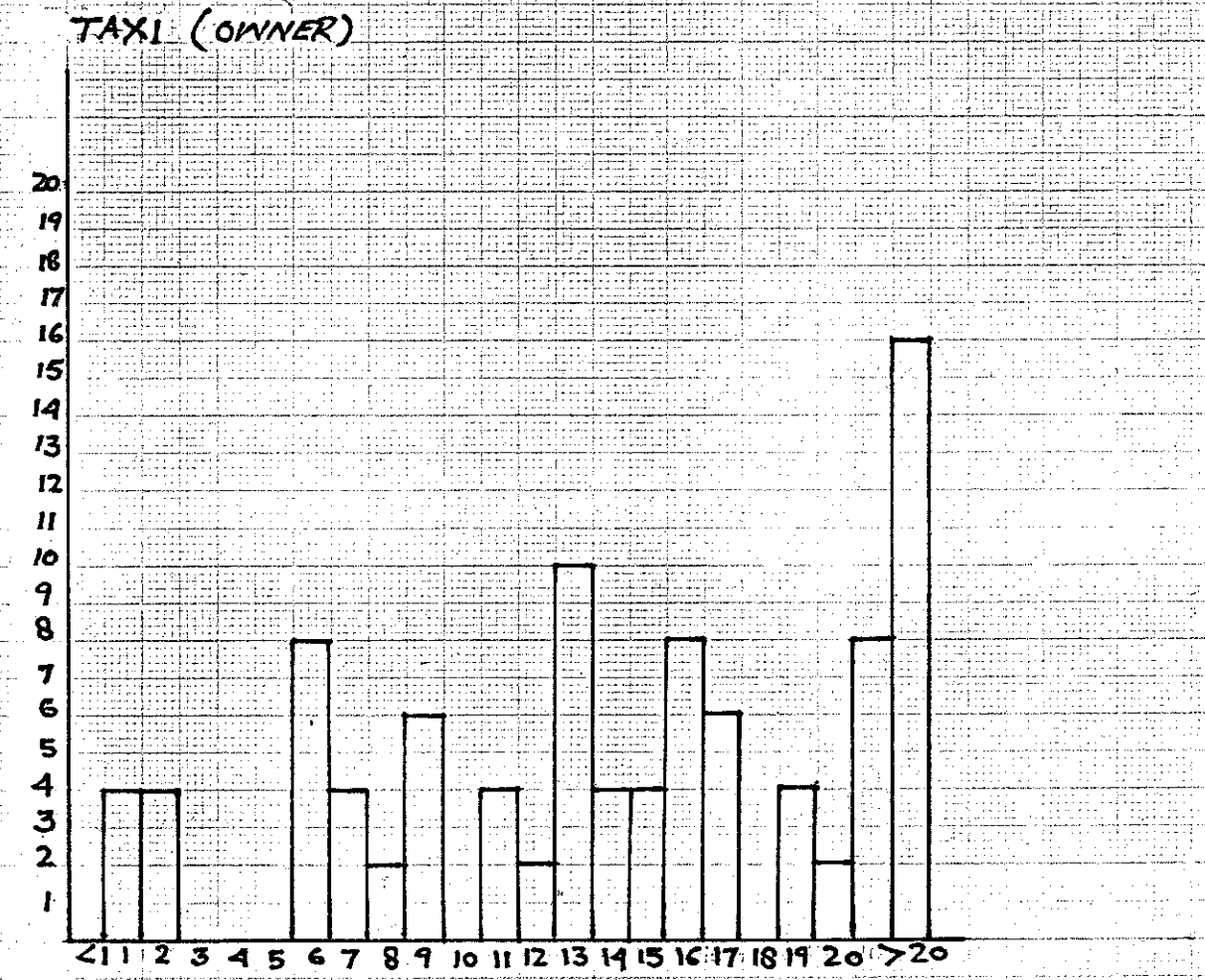


FIGURE 3.3 c Distribution of Period as Taxi Owner

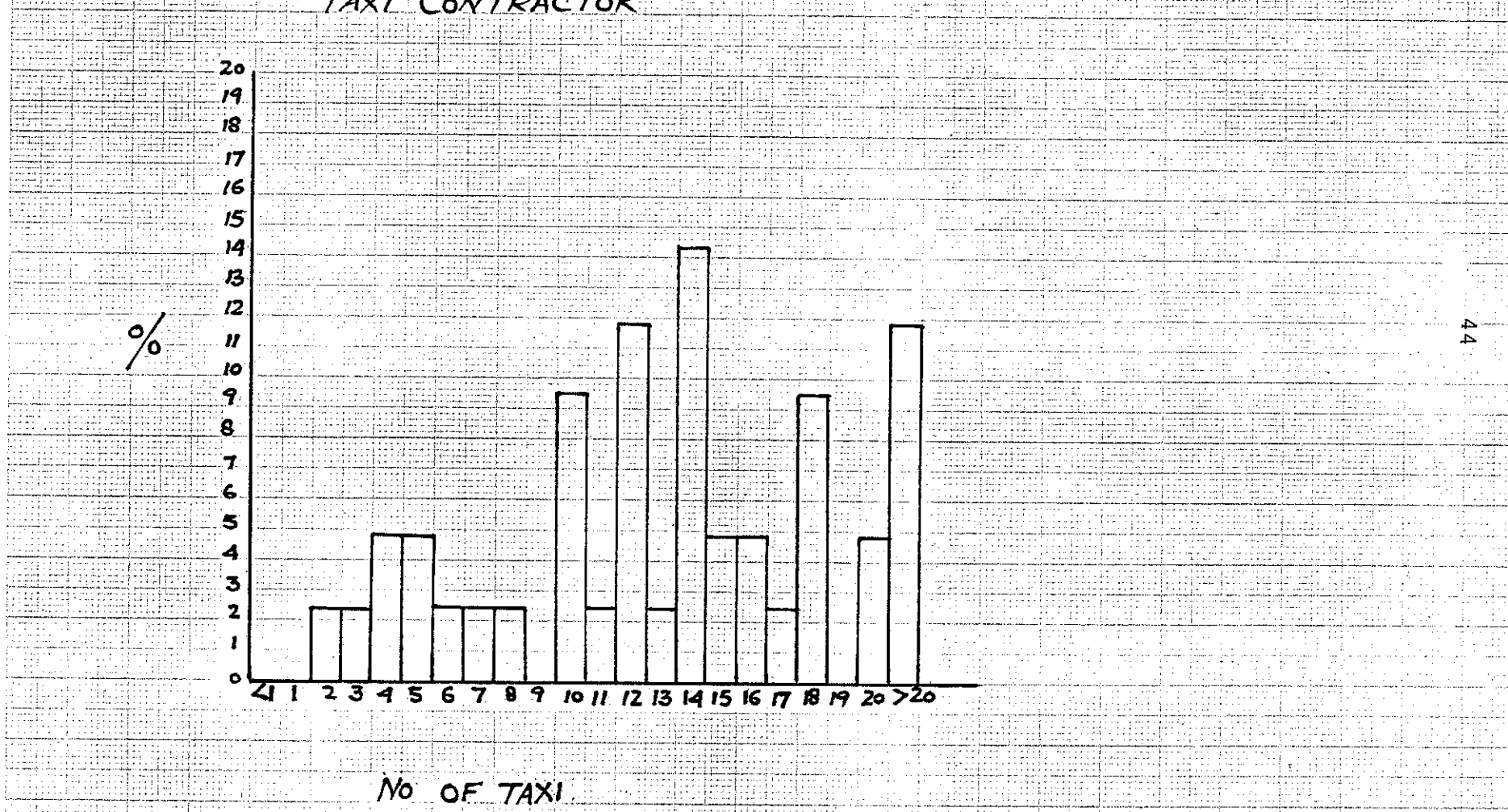


FIGURE 3.4

(of Rickshaw & Taxi cab)

Percentage of owners wishing to leave the industry as a function of length of time in business : category OWNERSHIP

A OWNER

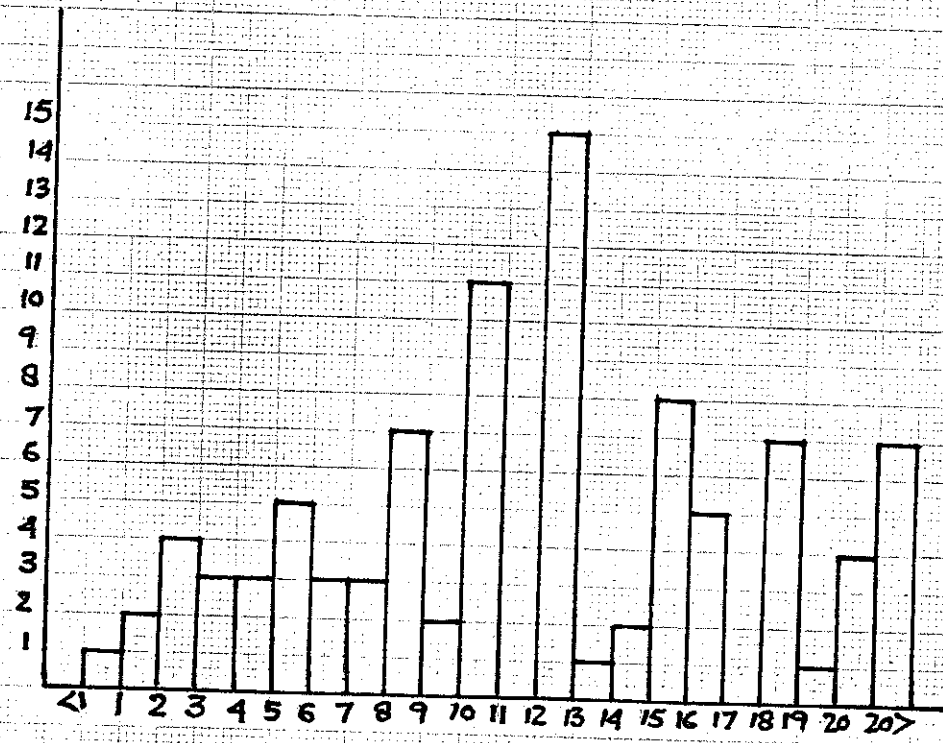
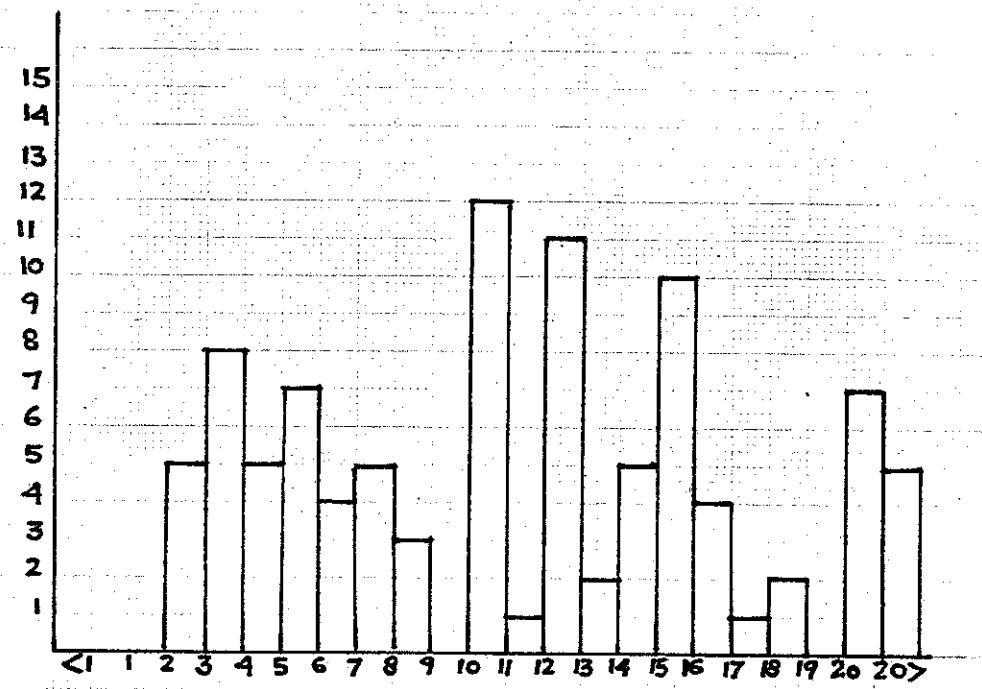


FIGURE 3.4(a)

(of Rickshaw & Taxi cab)

Percentage of owners wishing to leave the Industry as a function of length of time in business category ownership

B other owner



YES

3.3.2.2 Taxi Operation: The general practice is for taxis to operate from stands, although in the busier parts of Lahore a certain amount of cruising is seen and fares are picked up by vehicles returning to a stand. The term 'stand' is used here in a pragmatic rather than legal sense since there are only a mere handful of authorized taxi stands in the area. An authorized stand is one where the local authority (Municipal Corporation, and Cantonment Board) stipulate that a parking fee shall be charged, and where revenue collection has been let out to a contractor. There are such stands in Lahore with daily fees at Rs. 2.00. Elsewhere taxis use the public highway, parking lots of public and commercial buildings and vacant ground as their stands. The definition of stand adopted for this study was any location where two or more taxis habitually wait for the purposes of picking up passengers. Some 42 such locations covering the whole of the urbanized area of Lahore, were covered in the survey.

In the survey with passengers, a number of ancillary questions were put to the taxi drivers. Two of those related to the identity of the vehicle owner and to how the taxi was operated. Four categores of operation were specified:

- a vehicle owned exclusively by the driver (owner driver)
- a vehicle owned by the driver and someone else(joint owner)
- a vehicle being driven by a regular driver who receives a regular monthly salary from the owner (employee)
- The driver is someone who has hired or contracted the vehicle from the owner, for either a fixed fee or on a commission basis.

The distribution of the number of operators falling within each of these four categories is shown in Figure 3.5. For the total vehicles covered in the survey, it can be seen that there is a fairly even divide between owner drivers on one hand and all other categories combined on the other. The owners employ drivers to operate their vehicles under the following arrangements/practices:

1) The vehicle is contracted or hired out at Rs.50-100 daily.
2) The vehicle is contracted or hired out at Rs.900-3300 monthly.
3) If the driver is a regular employee at Rs.50-60 daily.
4) If the driver is a regular employee at Rs.500-1500 monthly.

The most common practice is that of contract hire arrangements which covers over 90% of all cases. Under this agreement the driver gets a nominal monthly wage but retains the balance amount after paying a fixed daily amount to the owner of the rickshaw. More than 1% of the contract prices for rickshaws fall within the range of Rs.1300 to 1500 per month while more than 17% fall within Rs.1100 to 1300 and 36% fall within 2100 to 2500 range. For taxi more than 12% within the range 2100-2300 and more than 40% within the range 1700-1900 (Figure 3.6). This shows that there is a big variation in the practice of agreed contract prices. There are no hard and fast rules/practices governing the contractual arrangements. In some arrangements the driver may be asked to meet some of the operating cost of the rickshaw. Various form of contractual arrangements is shown diagramatically (Figure 3.7). Similarly driver's monthly wages also show a wide variation ranging from a meagre Rs. 300 to 1250 per month. If the contract price is more, the driver is likely to get a bigger basic pay. Some owner-drivers supplement their income through other sources. Figure 3.8 shows the income from rickshaw operation as percentage of the total income of drivers. Other professions in addition to driving the rickshaw are book seller, mechanic, small garrage owner, serving and retired government servants, etc.

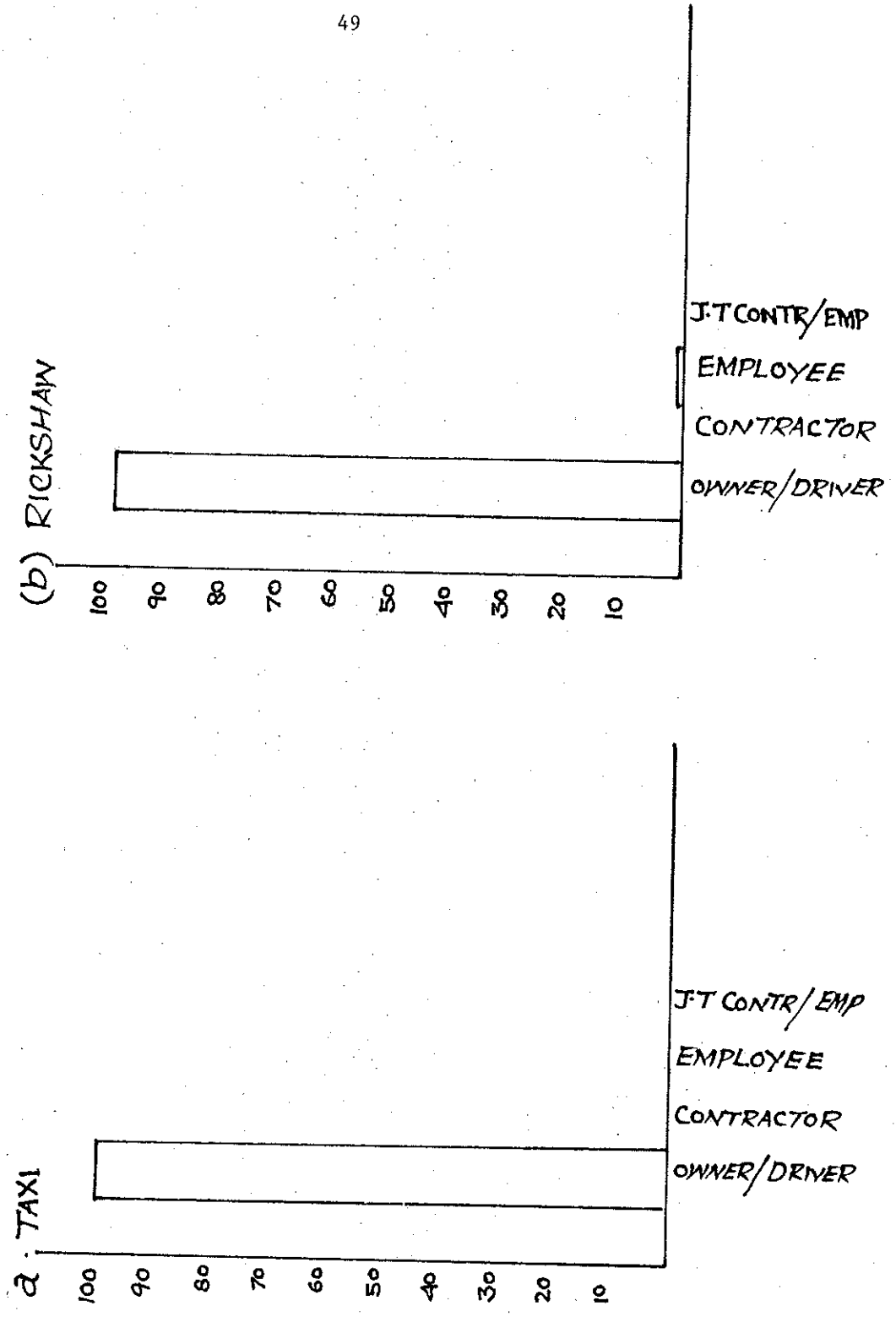


FIGURE 3.5
Distribution of Mode of Operation of TAXI

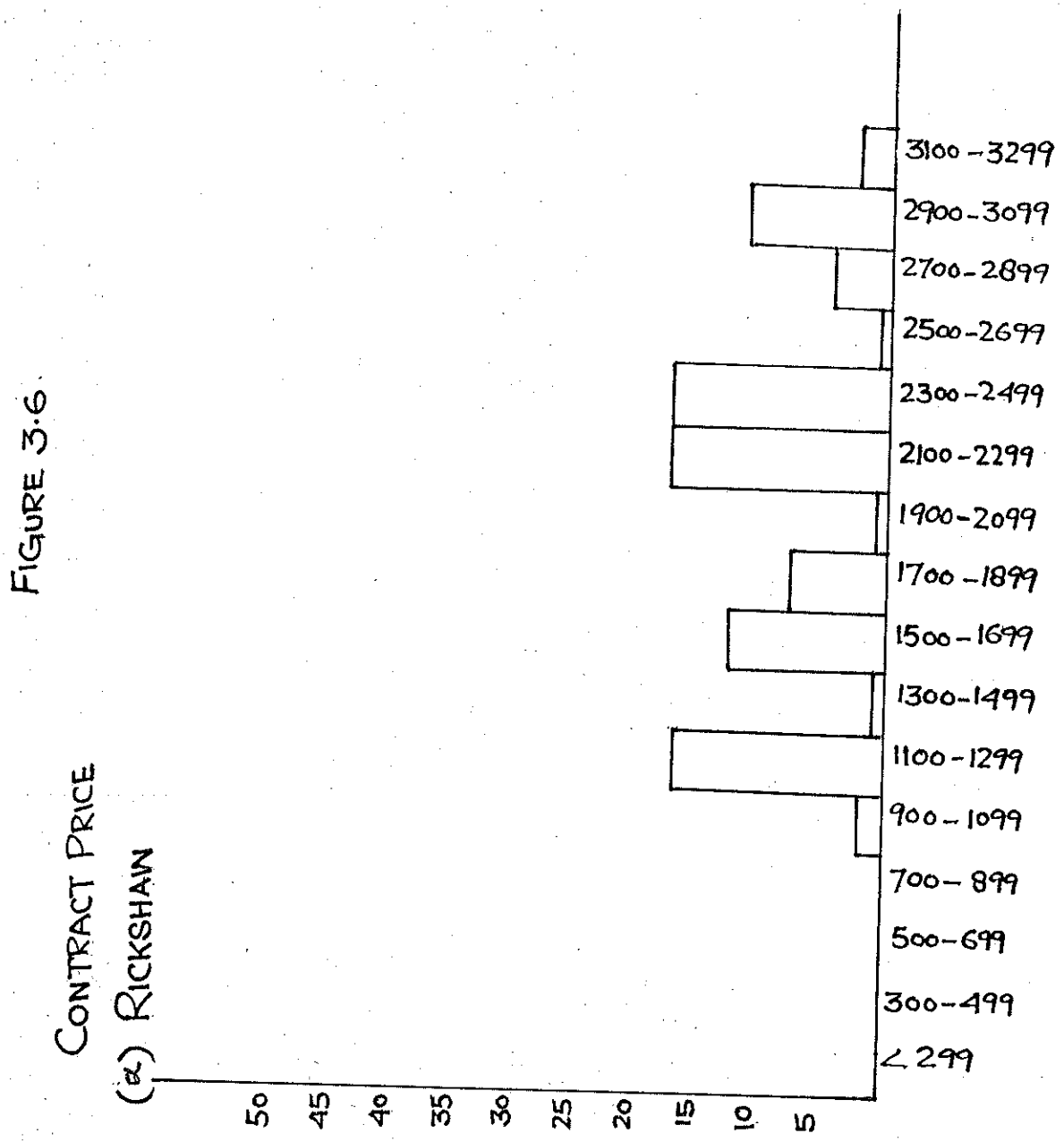

3100 - 3299
2900 - 3099
2700 - 2899
2500 - 2699
2300 - 2499
2100 - 2299
1900 - 2099
1700 - 1899
1500 - 1699
1300 - 1499
1100 - 1299
900 - 1099
700 - 899
500 - 699
300 - 499
< 299
50
45
40
35
30
25
20
15
10
5
CONTRACT PRICE
(₹) RICKSHAW

FIGURE 3.6

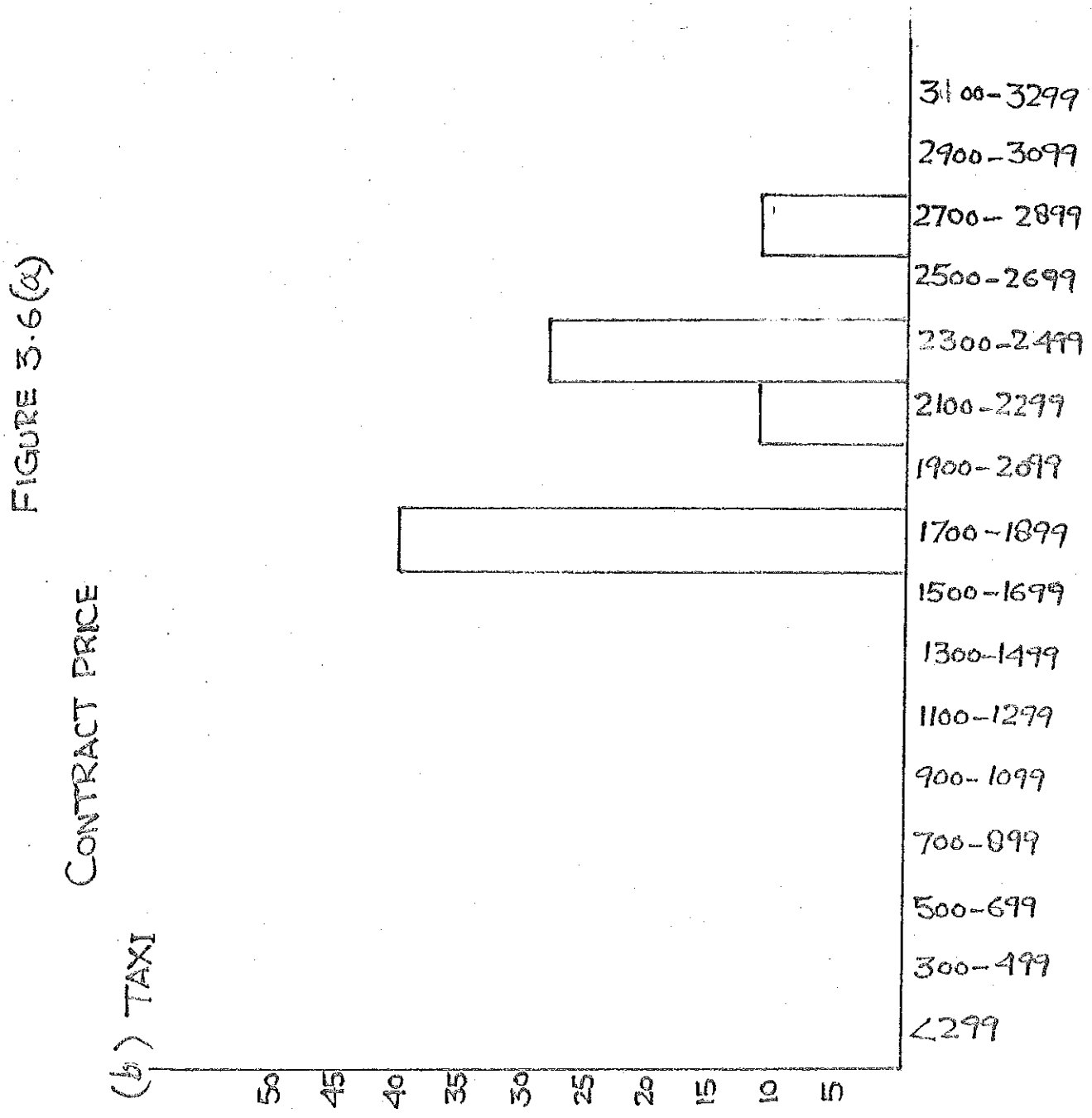


FIGURE 5.6 (a)
CONTRACT PRICE
(b) TAXI
3100-3299
2900-3099
2700-2899
2500-2699
2300-2499
2100-2299
1900-2099
1700-1899
1500-1699
1300-1499
1100-1299
900-1099
700-899
500-699
300-499
<299
50
45
40
35
30
25
20
15
10
5

Figure 3.7

CONTRACT ARRANGEMENTS

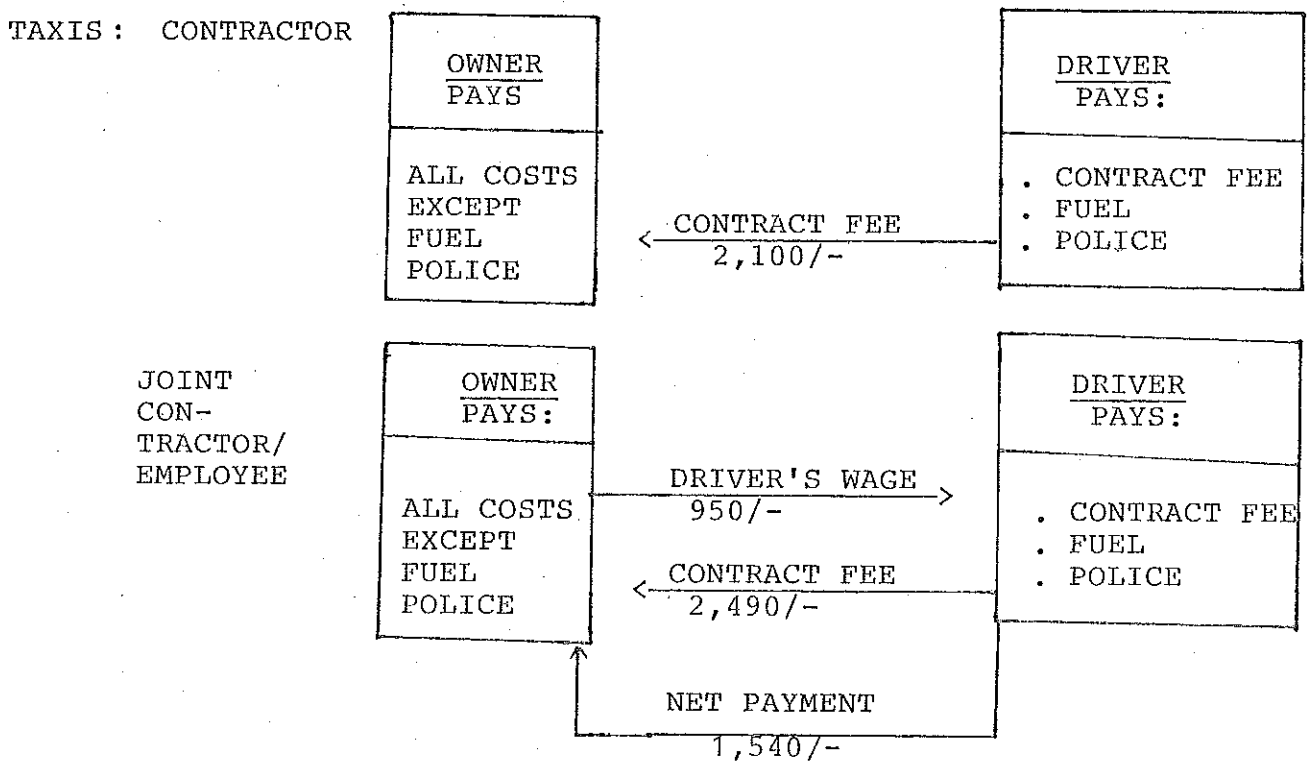
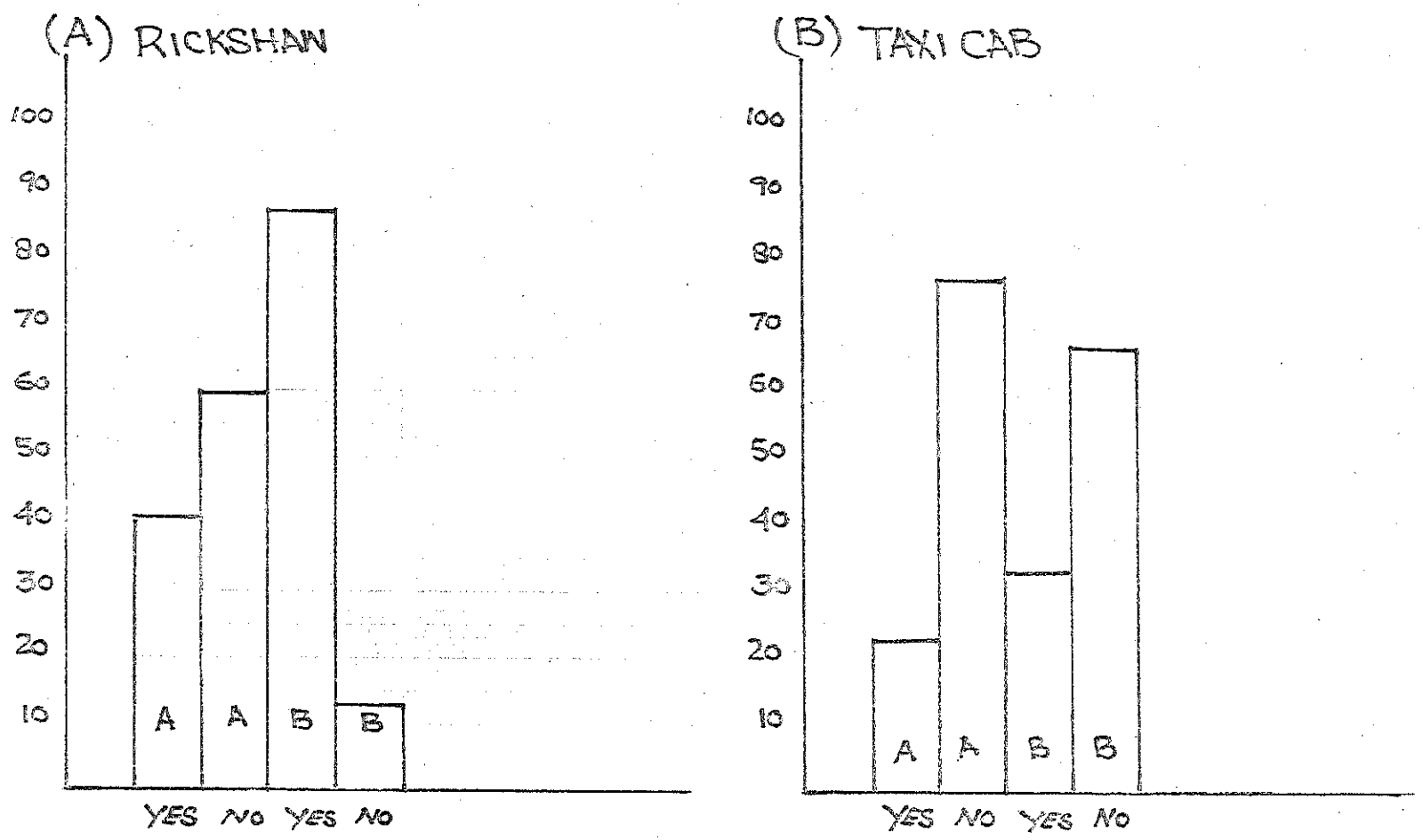


FIGURE 3.8 OTHER SOURCES OF INCOME



A = OWNER – DRIVER

B = CONTRACTOR

We can obtain a fairly clear idea of the scale of the financial problems as they affect the contracting driver from the figures given below:-

1)	Contract (net value)	Rs. 2,100
2)	Fuel	Rs. 1,180
3)	Police	Rs. 68
4)	Finces	Rs. 70

Adding to this small items such as puncture repairs, gives a monthly total in the region of Rs. 3,450. On average the expected fare revenue to be earned is not a great ideal more than this — as a rough approximation we can take Rs. 2.00 per kilometre multiplied by a monthly revenue kilometrage of 1680 kms providing the driver with an income of less than Rs. 1200 per month.

One of the major problems faced by this class of drivers is insecurity. Since taxi operation is essentially a random affair, there will be days when revenue is insufficient to pay the contract fee which is normally charged on a daily basis. This can lead to discriminations; a severing of the relationship between owner and driver, and possibly the loss of employment. This problem can be serious when the vehicle is not kept in good repair and keeps breaking down, leading to a loss of revenue earning potential, and on those days when the activities of the police have been more pronounced.

When a vehicle is off the road - for repairs or for servicing - there is no contract for the driver, and there are of course no provisions in the industry for such benefits as sickness pay, paid holidays, or retirement or disability pensions.

The working time of the driver is relatively arduous. Figure 3.9 shows that the greater portion of the rickshaw contract drivers are on duty for about 12 hours per day, but with some working upto 19 or 20 hours per day. Owner drivers appear to work marginally shorter hours. However, it should be remembered that only about 25% of the time is spent in actually driving. For taxi, there are 12 or 13 hours per day but some working 18 to 19 hours per day.

The majority work (Figure 3.10) 6 days a week, but some work for 7 days, so that over the year we estimate that the drivers are working some 320-340 days, including periods deducted for sickness, enforced days off due to the vehicle being off the road etc. Driver hours for the two categories (owner and other owners) are shown in Table 3.2.

One final analysis with respect to the drivers, is the length of time they have spent in the taxi industry. Here we find that there is a greater length of service than was found for the owners (Figrue 3.11). For example 14% owner-drivers and 15.5% of contractor/employees have been driving for less than 5 years, whereas only 86% of those owners who contract out their vehicles and 84.5% of those who use employee/contractor drivers have been in business for 5 years or longer. For taxi, there no any owner/driver have been driving less than 5 years but only 9.5% other owner have been driving less than 5 years.

3.3.2.3 Operating Problems: Duringthe course of the interviews each taxi owner was asked what he considered to be the main problems encountered in the day to day operation of his vehicle.

FIGURE 3.9

HOURS WORKED PER DAY

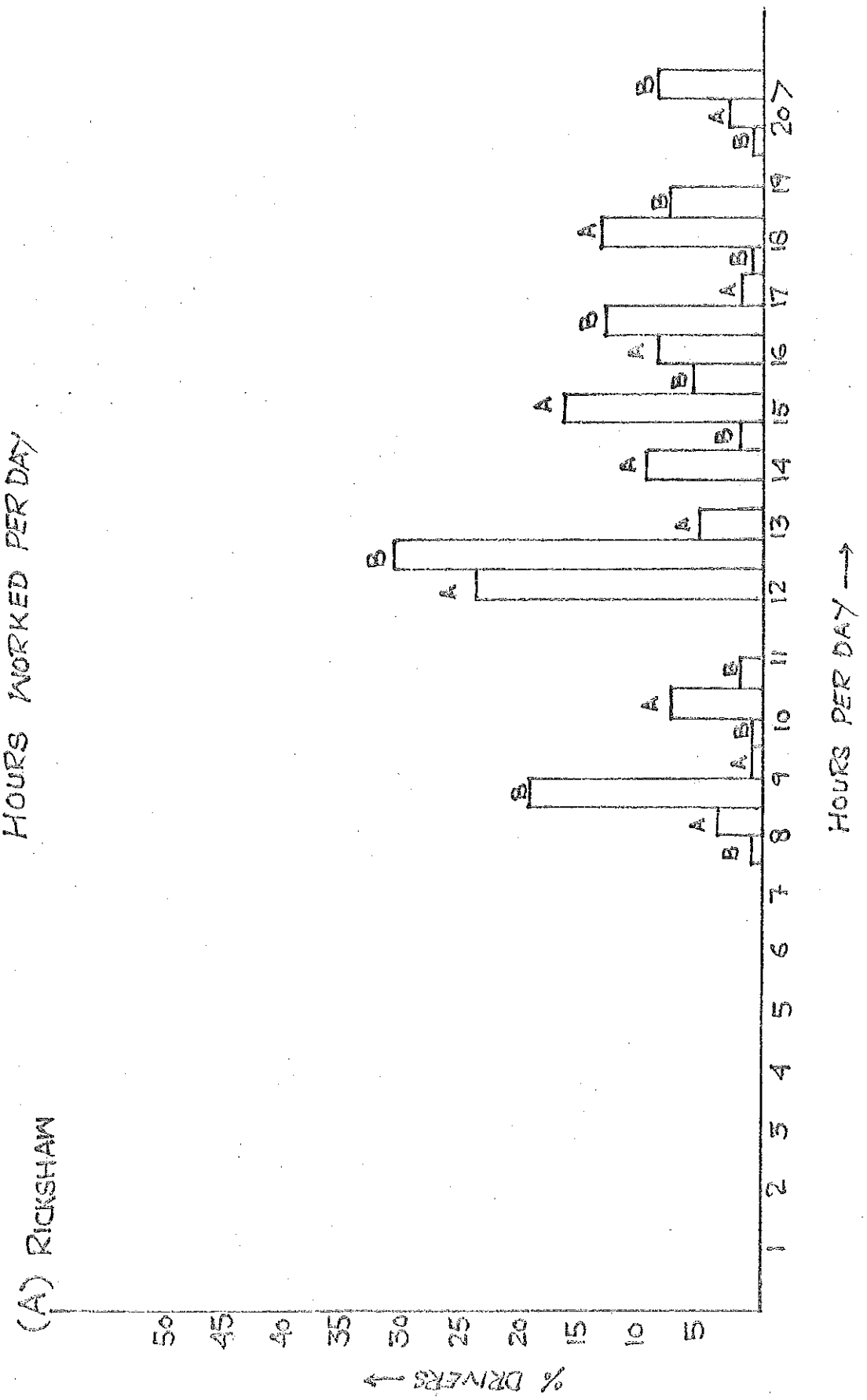


FIGURE 3.9(a)

HOURS WORKED PER DAY

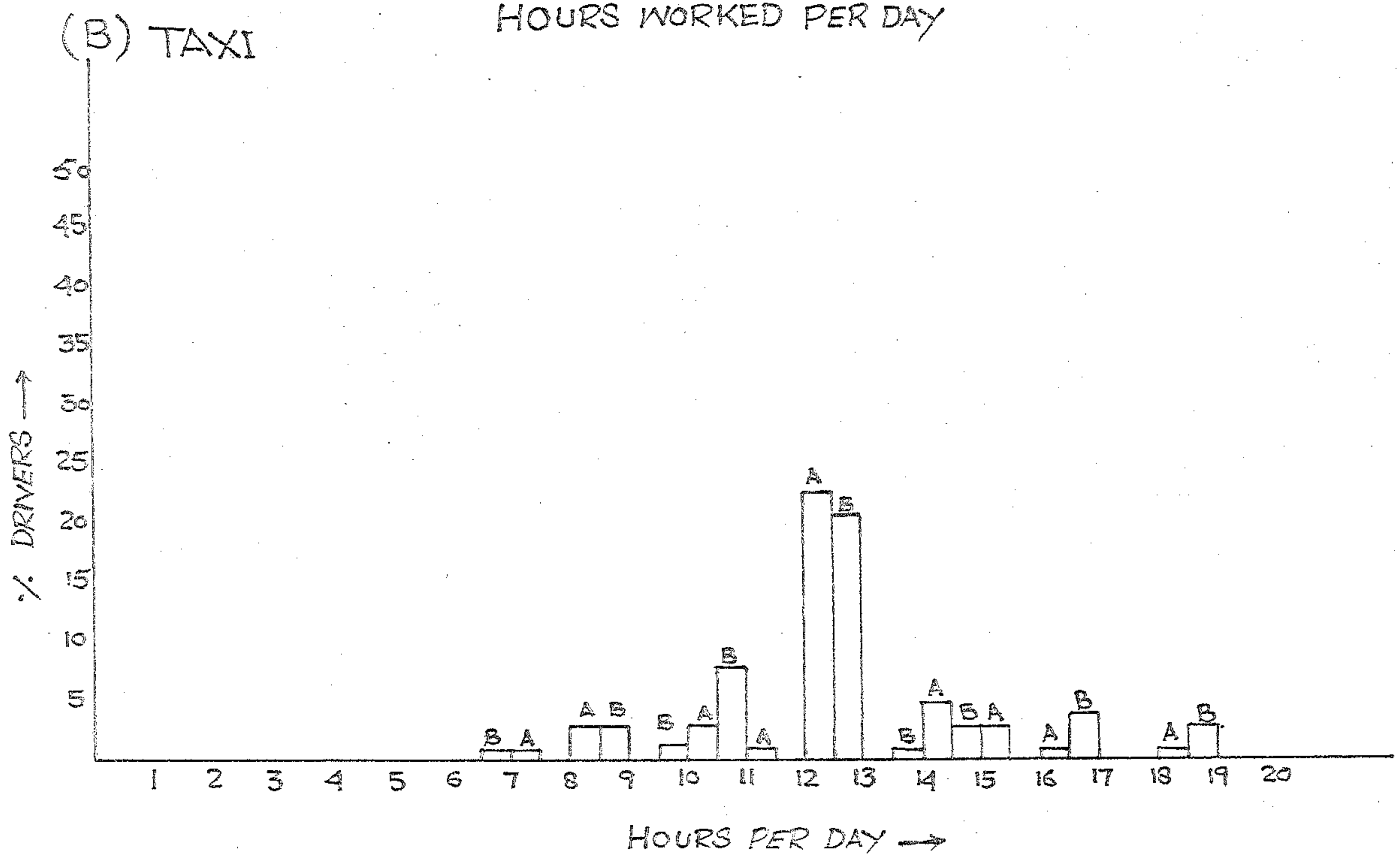
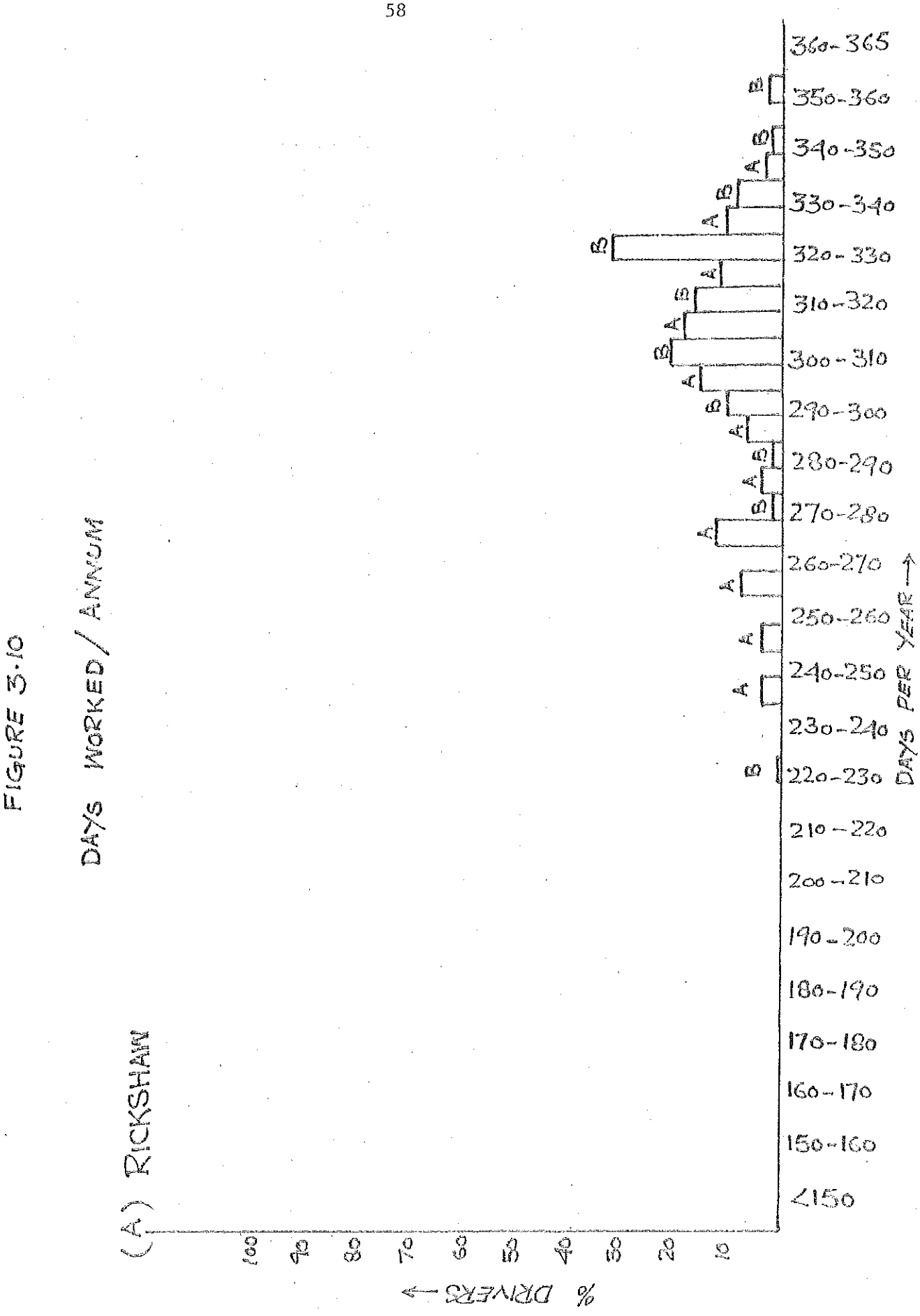


FIGURE 3.10

DAYS WORKED / ANNUM



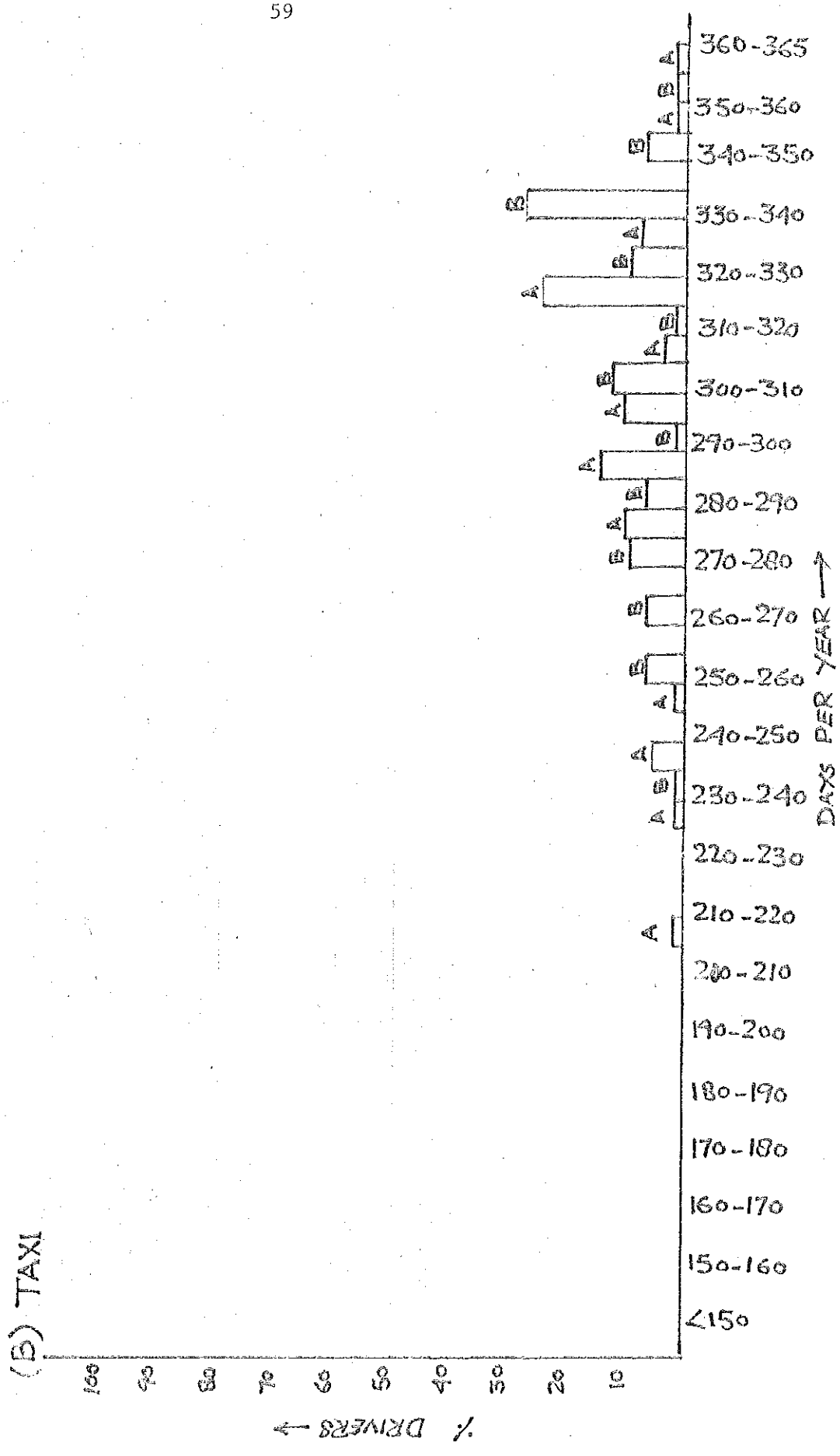


FIGURE 3.10(a)

DAYS WORKED / ANNUM

Table 3.2

DAYS WORKED/WEEK

	Percentage	
Days	Rickshaw	Taxi
1	1.0	-
2	1.0	-
3	-	-
4	-	-
5	-	-
6	35.1	35.4
7	62.9	64.6

FIGURE 3-11

YEARS DRIVING TAXIS

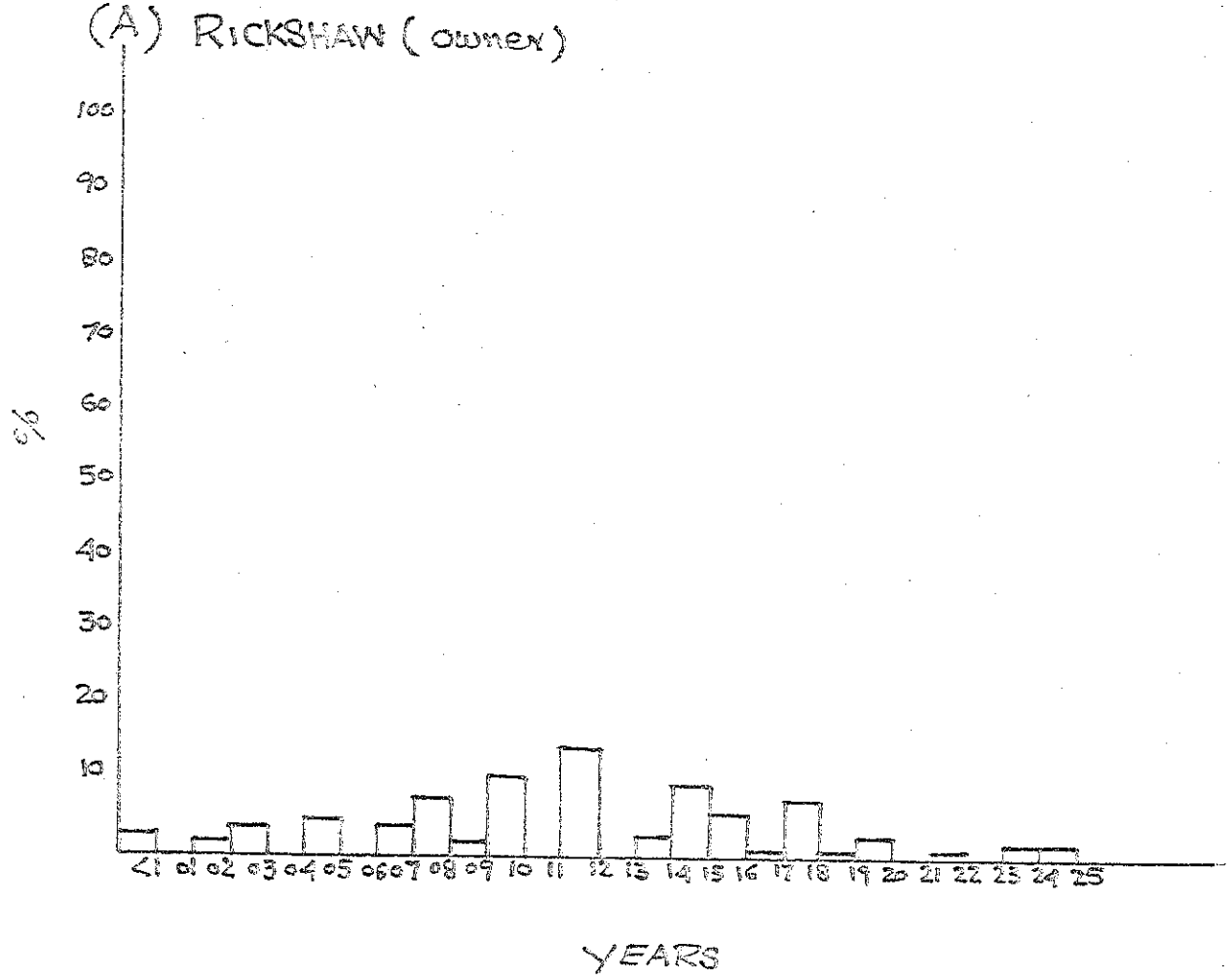


FIGURE 3.11a

YEARS OF DRIVING

RICKSHAW CONTRACTOR

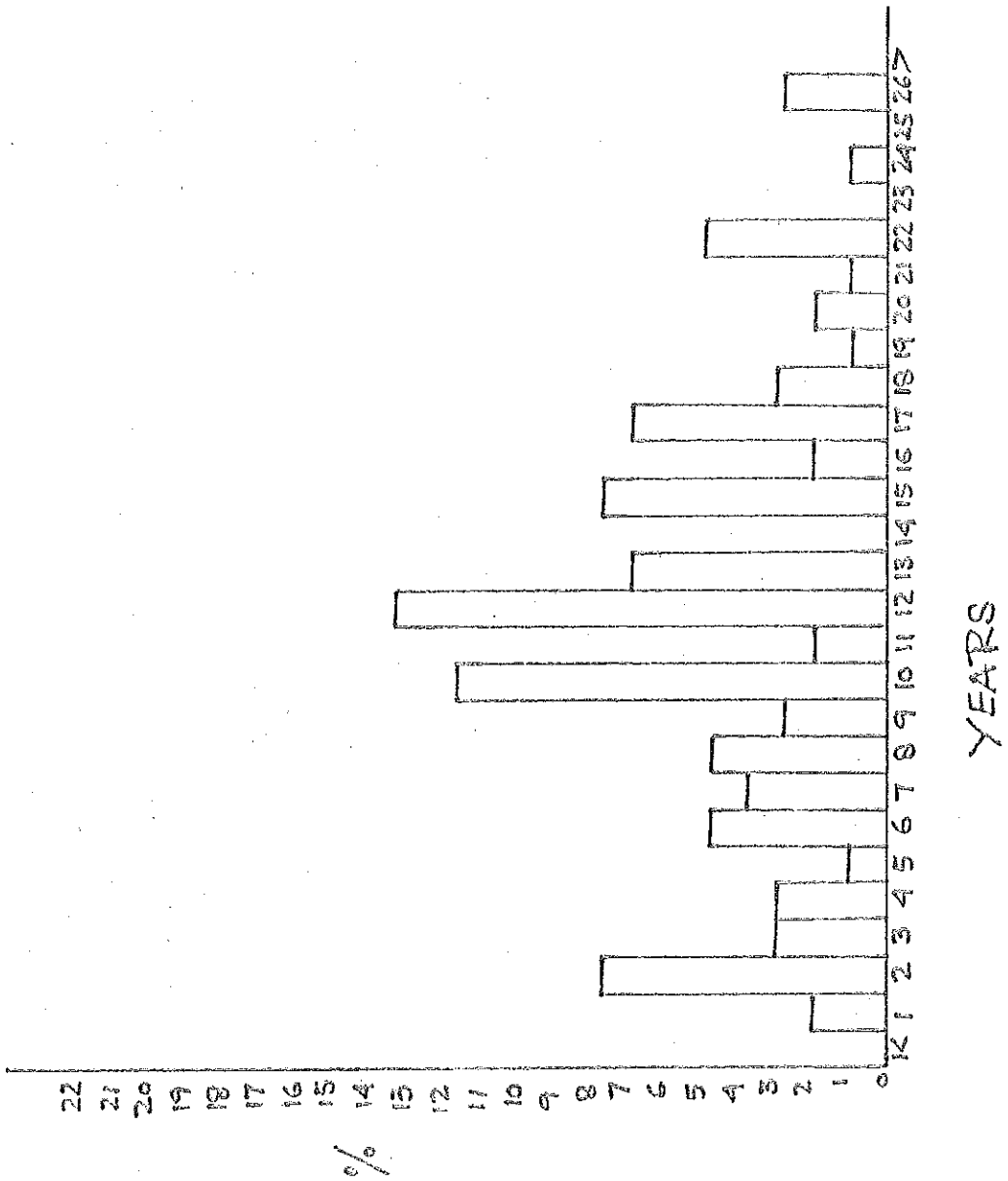


FIGURE 3.11 b

YEARS DRIVING TAXIS

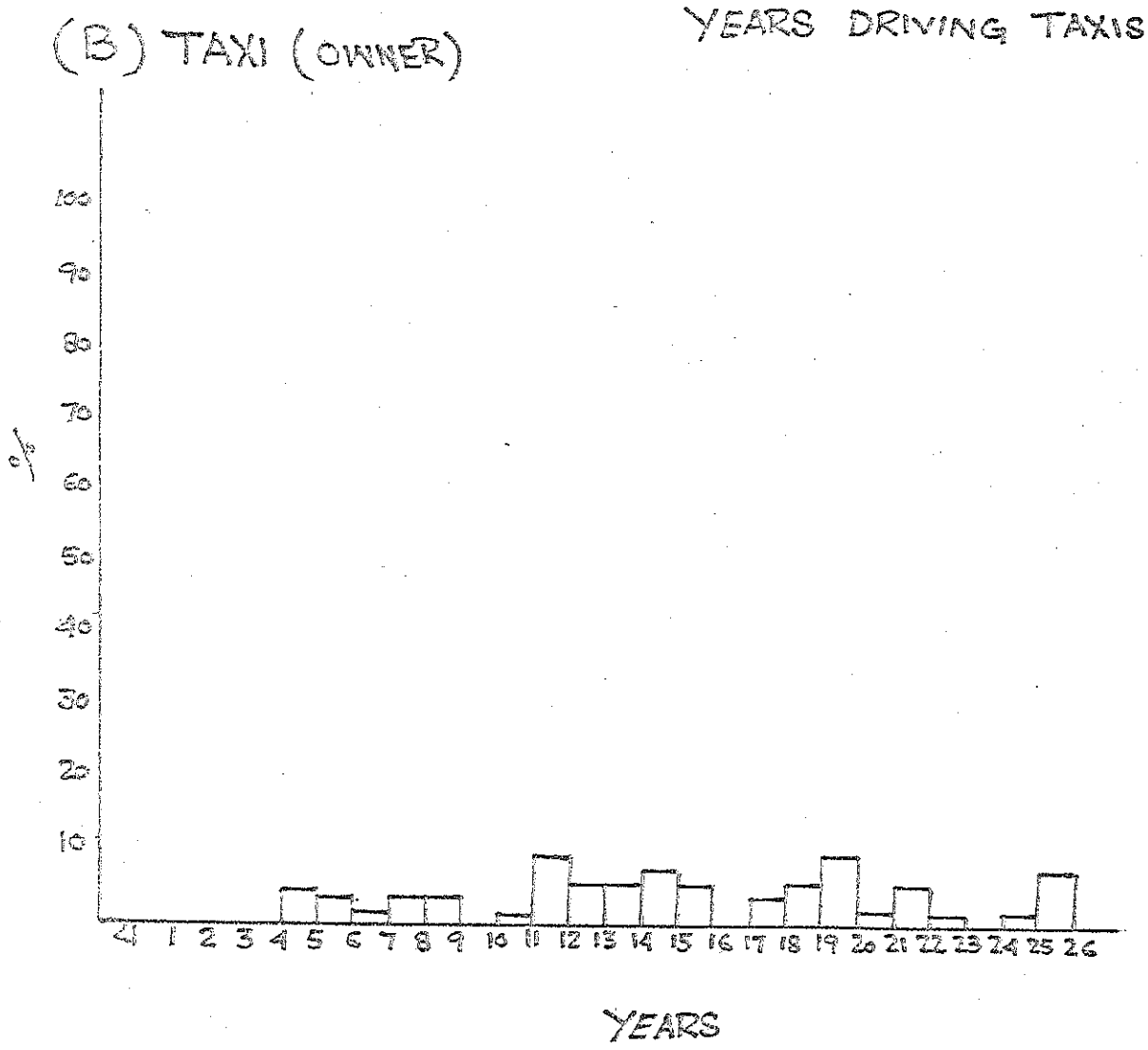
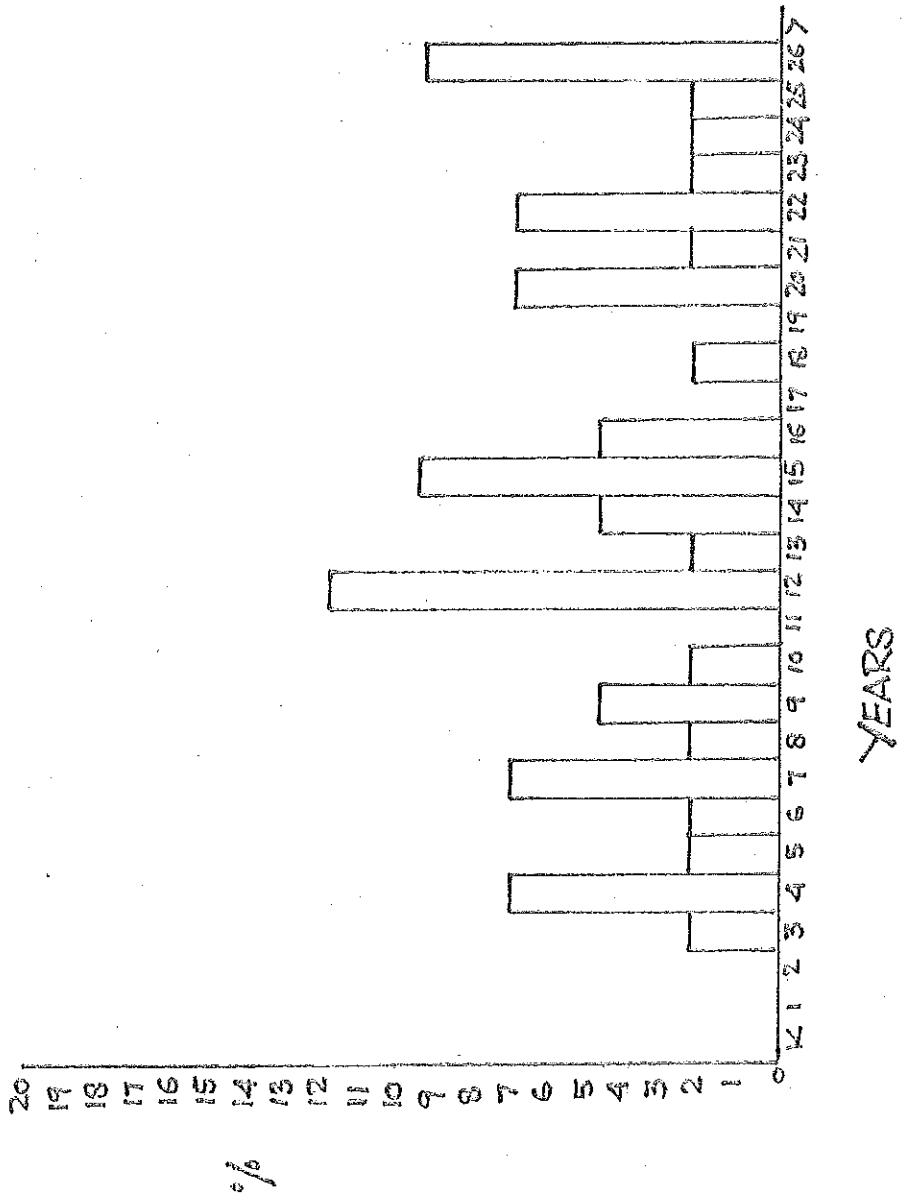


FIGURE 5.11(c)
TAXI CONTRACTOR



This was left as an open ended question, allowing the respondent total freedom of choice to cite whatever came to his/her mind. The interviewers were instructed not to prompt or lead the respondent by suggesting possibilities.

In the analysis of the responses (Figure 3.12) the problems which was cited first was taken to be the most important, (problem 1) the one came second on the list to be the second most serious (problem 2) and so on. The responses were subsequently coded into 9 groups of related subjects. Of the 300 owners in the sample, 143 (48%) admitted to having problems. Of those 77% rickshaw drivers and 69% cab drivers admitted having problems with police; 6% rickshaw and 5% cab drivers identified the spare parts, and 4% rickshaw and 19% cab drivers termed stands as their main problem (Table 3.3).

The major problem identified is the predatory role that the traffic police play in extorting money from operators and drivers. This is a practice widespread throughout Pakistan and applied to all transport operators in the private sector. Other abuses of power were witnessed; the most prevalent being the practice of police officers appropriating vehicles for their own use without payment thereby adding to the operator's costs and depriving him of the opportunity of earning revenue.

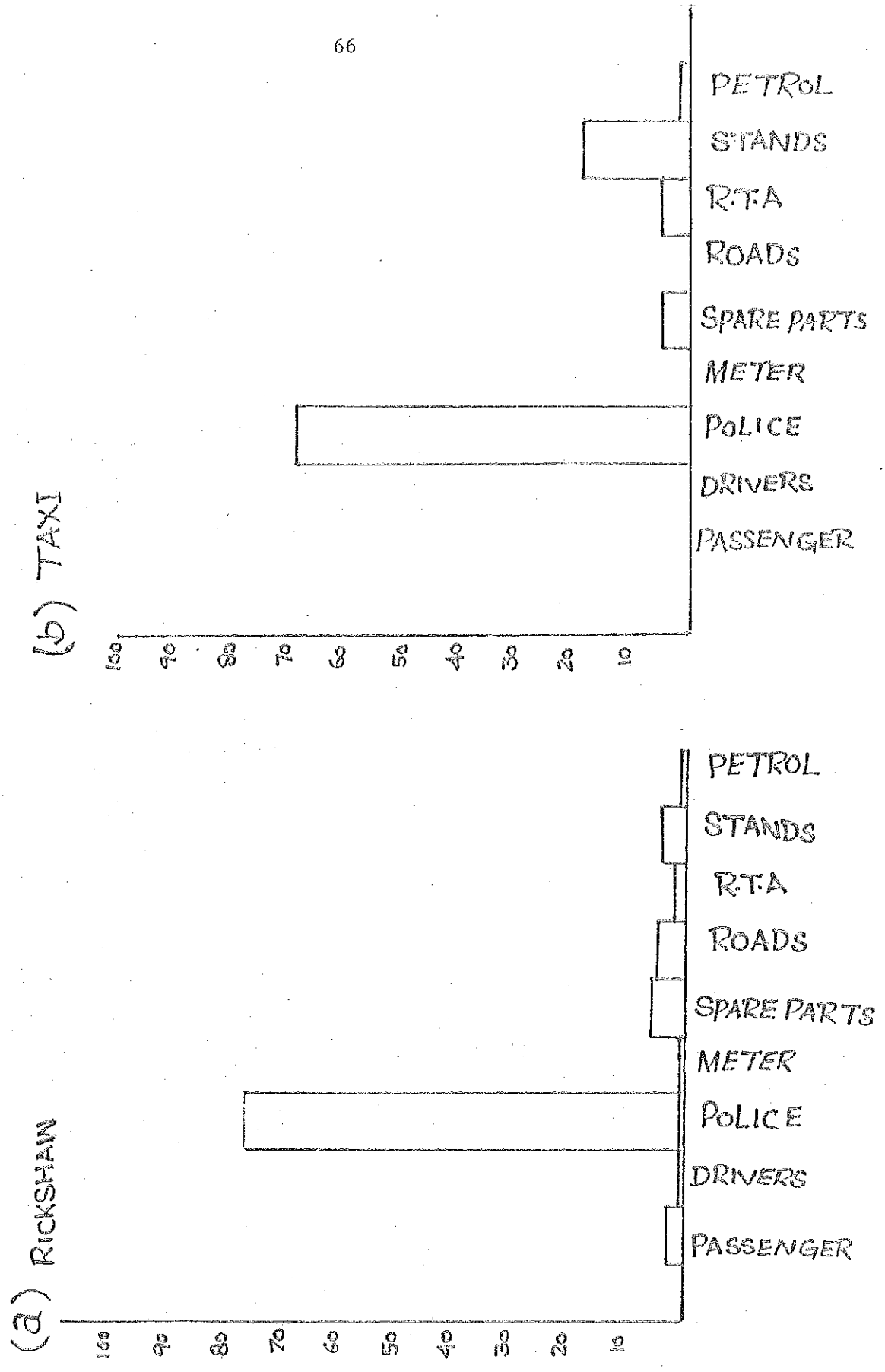


FIGURE 5.12
MAIN PROBLEM FACING TAXI OWNER

Table 3.3

MAIN PROBLEM FACING TAXI OWNER

Problems	Rickshaw %	Taxi %
Police	77.0	69.0
Spare Parts	6.0	5.0
Roads	5.0	-
Stands	4.0	19.0
Passengers	3.0	-
R.T.A.	2.0	5.0
Drivers	1.0	-
Meters	1.0	-
Petrol	1.0	2.0

3.4 Vehicles and Fares

3.4.1 Introduction

Our survey in Lahore dealth with the institutional and organizational aspects of rickshaw and cab operations covering important factors like ownerships structure of the industry and vehicle characteristics. The dominating feature of the taxi industry is absence of any organized operations by the public or the private sector. In most cities of the advanced countries like U.K. and USA there are operating companies - both at a small and bigger scale but in Lahore the fragmented nature of the taxi industry is very conspicuous.

3.4.2 Vehicle Fleet

3.4.2.1 Size: Like any other city in the country Lahore has an Excise and Taxation Office (ETO) which is the licensing authority, and the Regional Transport Authority (RTO) which grants route permits to operate a taxi. The route permit is renewed every three years. Drivers and union representatives gave their own estimates as to the number of rickshaws operating in Lahore City and Cantonment which were a little different than the record of RTA/ETO. In 1987, 17,200 vehicle route permits were issued for rickshaws and 3,616 for taxicabs but 12155 rickshaws and 783 taxicabs were on road as per ETO record. Motor Vehicle Examiner from Police Department inspects the rickshaw before route permit is issued.

There is no annual inspection of vehicle and there is no way to find the taxi which has gone out of operation since route permit was issued last.

3.4.2.2 Taxi Models: A few years ago all the rickshaws were imported. Vespa Chasis from Italy was very popular and proved a good economical machine. Now the rickshaws are manufactured by small scale industries, principally centred in Lahore.

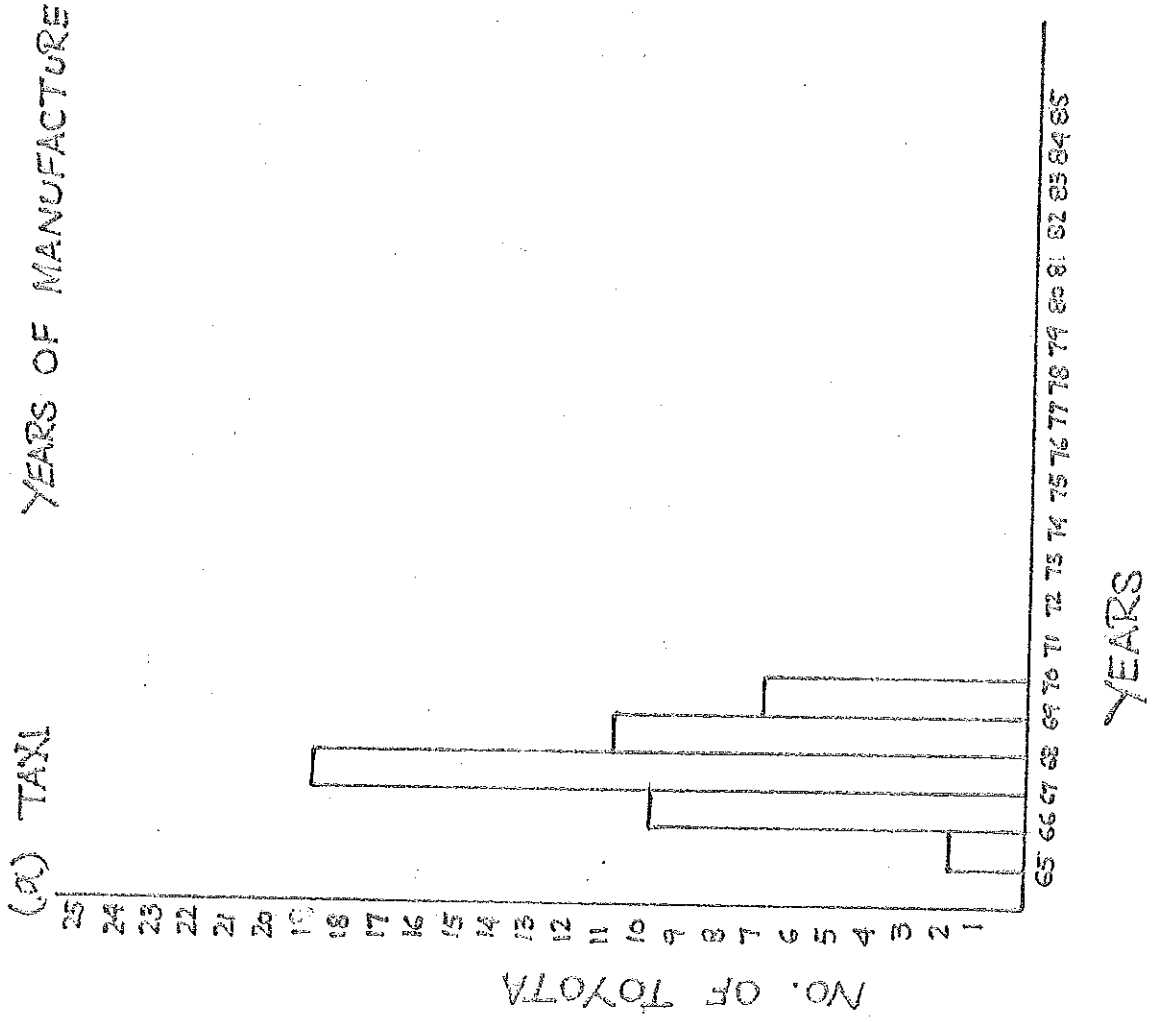
The age distribution of rickshaws is shown in Figure 3.13. No rickshaw is newer than 1984 model and older than 1971 year. Most of the numbers covered in our survey were of 76 model 20% followed by 79 (16%) and 1980 & 1978 (14%). The age distribution shows that majority of rickshaws in the city must have covered a lot of mileage by now. No taxicab is newer than 1970 model and older than 1966 model. Most of the numbers covered in our survey were of 1968 model (19%), followed by 1969 (11%), and 1967 (10%). Majority of the cabs are Toyota models.

ETO record showed that the oldest rickshaw was manufactured in 1971 and the latest one in 1984. Thus, the median year of manufacture of rickshaw is 1978 and the average age comes out to be 8.30 years. The median year of manufacture of taxicab is 1968 and the average age comes out to be 18.0 years. Most of the rickshaws in Lahore were not maintained and carried untidy appearance. Table 3.4 shows the average age, median year of manufacture oldest and newest would in use by the driver-owners and other owners.

FIGURE 3.13

YEARS OF MANUFACTURE

(a) TAXI



(b) RICKSHAW

FIGURE 3·13 a
YEARS OF MANUFACTURE

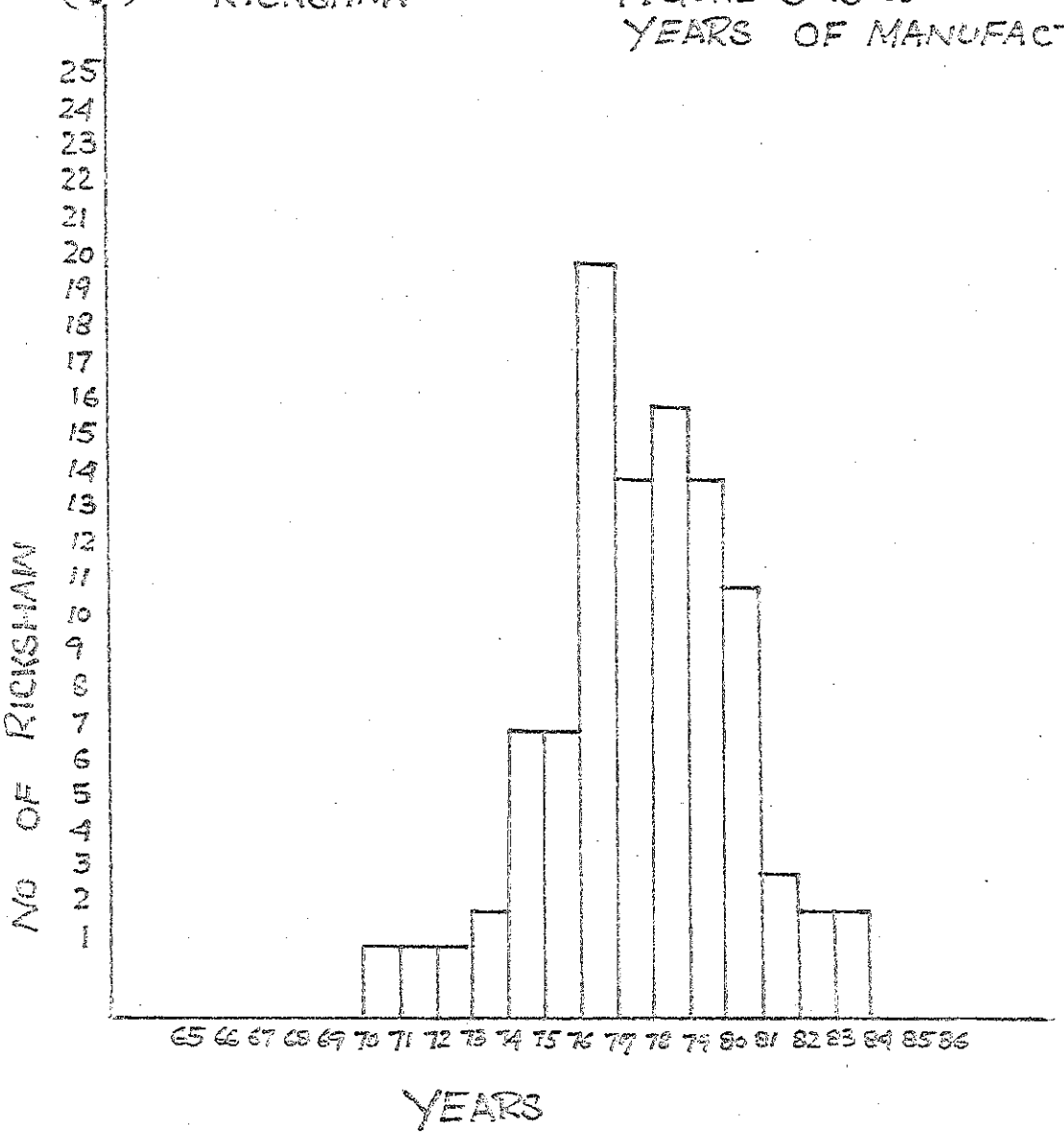


Table 3.4

AGE OF VEHICLE

		Taxi	Rickshaw
1)	Average Age (Years)	18.0	8.30
2)	Median Year of Manufacturing	1968	1978
3)	Oldest Manufacturing Year	1966	1971
4)	Year of Manufacturing of Newest Vehicle.	1970	1984

3.4.2.3 Income and Profit: Fares collected from passengers is the major source of revenue. Fare fixed by the RTA is Rs. 2.25 per km for rickshaw and Rs. 3.00 per km for taxicab and every driver is supposed to charge the fare as per meter reading but practically no one turns the meter on. Most of the vehicles do not have the meters. The fare is charged arbitrarily. Average fares by trip length is shown in Table 3.5. The average fare per km actually charged is close to the official rate when the trip is approximately 3 km or more. Smaller the trip length more is the fare per km. Majority of the passengers have got used to paying fare without the meter. A small percentage of revenue is raised by using taxi for transporting cargo. Figure 3.14 and Table 3.6 shows the profit/loss of owner-drivers and other owners. No one confessed a large loss while the two categories of rickshaw owners (6.9% and 9.9%) indicated small loss respectively. Most of the owners indicated marginal profit (61.4% and 80.2%). For taxi owners indicated 9.1% and 42.9% small loss, and 70.9% and 57.1% indicated marginal profit.

To the question on other sources of income (Figure 3.15) 40.6% of owner-drivers and 86.9% of other owners said 'yes' while 59.4% and 13.1% said 'no'. For taxicab 22.9% owner-drivers and 33.3% of other-owner said 'yes' while 77.1% and 66.7% said 'no'. This shows that most of owner-drivers have no other source of income except the taxi fare while others earned equal amount from sources other than taxi fare.

Table 3.5

Average Fare by Trip Length of All Vehicles

LENGTH	FARE (RS)												
	< 5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	> 60
< 1.5 Kms	44	7	1	2	2	1	1	-	-	-	-	-	-
1.5 - 2.4 "	131	98	2	1	1	-	1	-	-	1	-	-	-
2.5 - 3.4 "	33	101	7	-	-	-	-	1	-	-	-	-	1
3.5 - 4.4 "	3	70	17	3	-	-	-	-	-	-	-	-	1
4.5 - 5.4 "	-	22	26	5	-	-	-	-	-	-	-	-	-
5.5 - 6.4 "	-	9	33	13	-	-	-	-	-	-	-	2	-
6.5 - 7.4 "	1	1	21	9	2	1	-	-	-	-	-	-	1
7.5 - 8.4 "	1	3	7	5	3	-	-	-	-	-	-	-	2
8.5 - 9.4 "	-	2	4	3	1	2	-	-	-	-	-	-	-
9.5 - 10.4 "	-	-	1	5	-	1	-	-	-	-	-	1	-
10.5 - 11.4 "	-	-	-	-	1	1	-	-	-	-	-	1	2
11.5 - 12.4 "	-	-	-	-	-	1	-	-	-	1	-	-	-
12.5 - 13.4 "	-	-	-	-	-	-	-	-	-	1	-	-	-
13.5 - 14.4 "	-	-	-	-	-	-	-	-	-	-	-	-	-
14.5 - 15.4 "	-	-	-	-	-	-	-	-	-	-	-	-	-
15.5 - 16.4 "	-	-	-	-	-	1	-	-	-	-	-	-	-
16.5 - 17.4 "	-	-	-	-	-	-	-	-	-	-	-	-	-
17.5 - 18.4 "	-	-	-	-	-	-	-	-	-	-	-	-	-
18.5 - 19.4 "	-	-	-	-	-	-	-	-	-	-	-	-	-
19.5 - 20.4 "	-	-	-	-	-	-	-	-	-	-	-	-	1
20.5 - 25 "	-	-	-	-	-	-	-	-	-	-	-	-	1
25.1 - 30 "	-	-	-	-	-	-	-	-	-	-	-	-	-
30.1 - 40 "	-	-	-	-	-	-	-	-	-	-	-	-	1
40.1 - 50 "	-	-	-	-	-	-	-	-	-	-	-	-	-
> 50	-	-	-	-	-	-	-	-	-	-	-	-	1

FIGURE 3.14
PROFIT AND LOSS

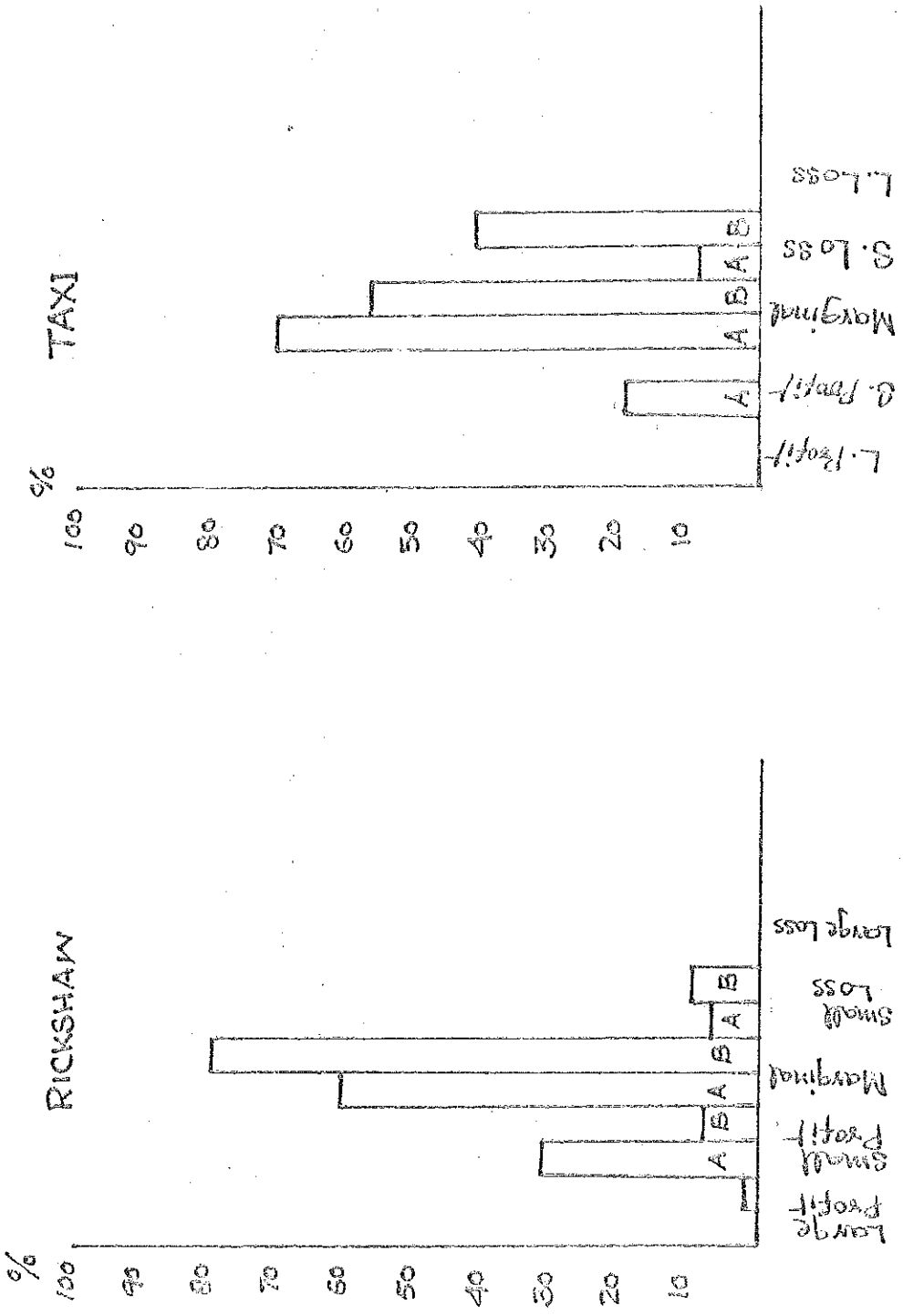
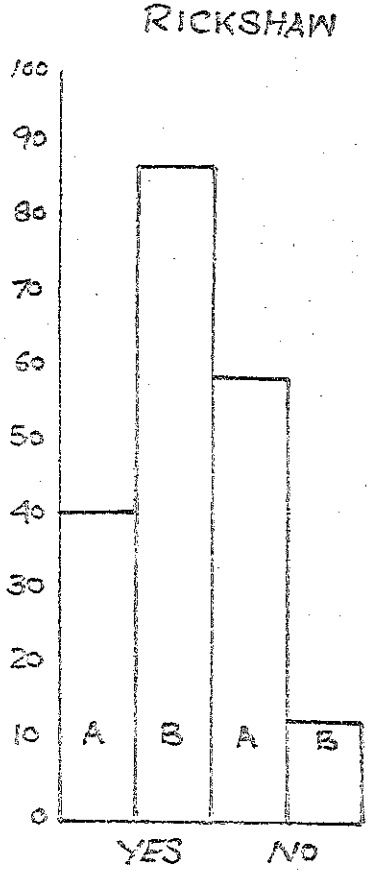


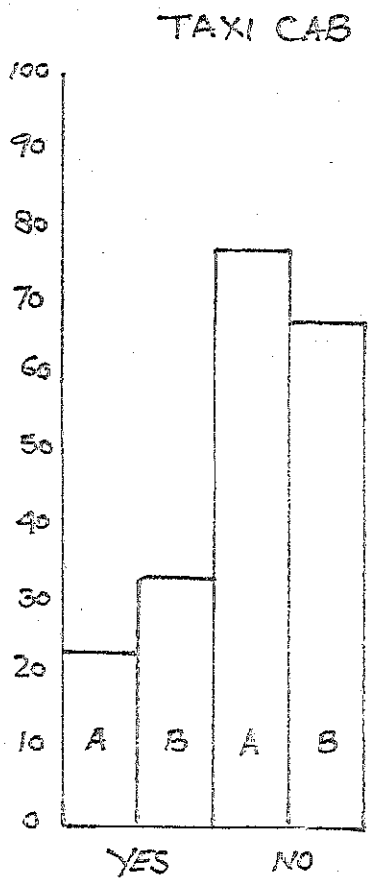
Table 3.6
Profit/Loss, All owners (Rickshaws & Taxicabs)

Profit/Loss	Rickshaw		Toyota	
	Owner (%)	Other Owner (%)	Owner (%)	Other Owner (%)
Large Profit	0.0	2.0	0.0	0.0
Small Profit	31.7	7.9	20.0	0.0
Marginal	61.4	80.2	70.9	57.1
Small Loss	6.9	9.9	9.1	42.9
Large Loss	0.0	0.0	0.0	0.0

FIGURE 3.15

OTHER SOURCE OF INCOME





Chapter - 4

COSTS

4.1 Introduction

Fare structure is the major source of revenue for the taxi industry while operating costs are the capital value of the vehicle, its depreciation, spare parts cost, driver's pay, vehicle maintenance and repair cost and miscellaneous expenditure. It is relatively simpler for a taxi operator to reckon his revenue i.e. the total of fares collected from the passengers but the proper determination of costs is not so simple. We interviewed large number of taxi owners and drivers using a detailed form (Figure 4.1) and found out that most of them never kept a written record of operating costs. So, most of the answers by those interviewed were from their memories or guess estimates.

4.2 Market Value

There are no organized second hand taxicab dealers. So, the average market value has been determined by asking questions from the owners and drivers. The assessed market values are shown in Table 4.1. The market value of rickshaw given by the owner-driver (Rs. 58,269.23) was lesser than other owners (Rs. 61,059.43). Thus the average market value of rickshaw came out to be Rs. 59,664.33. The market value of taxicab given by the owner drivers and other owners are Rs. 24,187.50 and Rs.27,254.50 respectively resulting in an average price of Rs.25,721/- for all owners.

4.3 Purchase Price:

The purchase price varies by model and year of purchase.

Fig. 4.1: Detailed Survey Form

GOVERNMENT OF PAKISTAN
PLANNING AND DEVELOPMENT DIVISION
NATIONAL TRANSPORT RESEARCH CENTRE

NATIONAL SURVEY OF TAXI SERVICES — OWNER/OPERATOR SURVEY

VEHICLE DATA

1. Make._____ ☐ 2. Model..... ☐☐

3. Registration No. ☐☐☐ ☐☐☐☐ 4. Cubic capacity,_____, ☐

5. How is the vehicle operated ?

a) Vehicle is owned exclusively by driver..... ☐

b) Vehicle is owned by driver and one or more others... ☐

c) Driver is hiring or renting vehicle from owner..... ☐

d) Driver is a regular employee of vehicle owner..... ☐ ☐

INFORMATION FROM VEHICLE DRIVER

6. On average, how many hours each day are you working with this vehicle ?..... ☐☐

7. Is this vehicle also used regularly by other drivers ?..... YES ☐ NO ☐

8. IF YES: For how many hours each day does the other driver(s) work? ☐☐

9. How many days do you work each week driving this vehicle ?..... ☐

10. For how long have you been working in the taxi industry ?

_____Years _____Months ☐☐☐☐

IF DRIVER IS ALSO THE OWNER GO TO Q. 14

11. If the vehicle is contracted or hired out, what is the fee ?

Rs._____ (Month) (Week) (Day) ☐☐☐☐

12. If the driver is a regular employee, what is his wage ?

Basic Pay Rs._____ (Month) (Week) (Day) ☐☐☐☐

Allowances Rs._____ (Month) (Week) (Day) ☐☐☐☐

13. Who pays for

a) Petrol..... Driver Owner ☐

b) Servicing/Oil..... Driver Owner ☐

c) Minor repairs..... Driver Owner ☐

d) Tyres/innertubes..... Driver Owner ☐

e) Accident repairs..... Driver Owner ☐

f) Gratification/fines..... Driver Owner ☐

14. What is the Name and Address of the owner of this vehicle ?

_____

_____

_____ ☐

INFORMATION FROM VEHICLE OWNER

15. What relationship does the REGISTERED OWNER have with the taxi industry and how many vehicles are owned ?	Taxi	Rick-shaw
a) He is the sole owner who takes full profits and losses of the operation of the vehicle(s).....	☐☐	☐☐
b) He is a joint owner who takes part share of profits and losses.	☐☐	☐☐
c) He provides hire purchase or other finance for the sale of the vehicle but is not involved in its operation.....	☐☐	☐☐

16. For how long have you been in the taxi business ?

_____years _____months ☐☐☐☐

17. Have you been operating with this vehicle in some other town before operating in Islamabad/Rawalpindi ?.....YES ☐ NO ☐

IF YES: COMPLETE Qs. 18,19,20.

IF NO : GO TO Q 21.

18. Where were you operating before ?..... ☐☐

19. When did you move to Islamabad/Rawalpindi ?

_____year _____month ☐☐☐☐

20. Why did you move ?

_____

_____

_____

_____ ☐ ☐ ☐

21. Do you have any other business interests or income ?.....YES ☐ NO ☐

IF YES: What percentage of your total income is derived from taxi ownership ?..... ☐☐

22. What is your experience with regard to the profitability of taxi ownership ?

HIGHLY PROFITABLE	REASONABLY PROFITABLE	JUST BRAKS EVEN	MAKES SMALL LOSS	MAKES LARGE LOSS

☐

23. Do you intend to remain in the taxi business?.....YES ☐ NO ☐

24. What do you consider to be the main problems confronting a taxi owner ?

_____

_____

_____

_____ ☐ ☐ ☐

25. Is anyone otherthan the owner of the vehicle employed in connection with the operation of the taxi business ? YES ☐ NO ☐

IF YES: COMPLETE THE INFORMATION OF FORM 2.1 AND ATTATCH TO THIS FORM

26. Are there any premises being used in connection with the taxi business ?.....YES ☐ NO ☐

IF YES: COMPLETE THE INFORMATION ON FORM 2.2 AND ATTATCH TO THIS FORM

AQUISITION DETAILS FOR VEHICLE

27. When was the vehicle aquired ? _____year_____month ☐☐☐☐

28. Was it already registered as a taxi when aquired ? YES ☐ NO ☐

29. How was the vehicle purchased ?

a) outright..... ☐

b) by instalments..... ☐ ☐

IF OUTRIGHT PURCHASE: COMPLETE Qs. 30,31 AND THEN GO TO Q. 38.

IF PURCHASED ON INSTALMENTS: GO TO Q. 32.

30. What was total amount paid ?.....Rs._____ ☐☐☐☐☐

31. How was money raised for outright purchase ?

a) The purchaser contributed from own resources..... ☐

b) Loan from family..... ☐

c) Loan from friends..... ☐

d) Loan from bank..... ☐

e) Gift of money ..... ☐

f) Loan from agent/money lender..... ☐

g) Other sources..... ☐

IN THE CASE THAT THE PREVIOUS OWNER WAS NOT PAID OUTRIGHT IN ONE LUMP SUM: COMPLETE Qs. 32 THROUGH TO 37.

32. What was the lump sum value of the vehicle?.....Rs._____ ☐☐☐☐☐

33. What was the initial deposit?.....Rs._____ ☐☐☐☐☐

34. What was the value of each instalment? (monthly).....Rs._____ ☐☐☐☐

35. What number of instalments? (monthly)..... ☐☐

36. How easy is it to meet the loan repayments?

easy ☐ difficult ☐ very difficult ☐ ☐

37 To whom is/were the repayments to be made?

a) Bank or financial institution..... ☐

b) Relative..... ☐

c) Friend..... ☐

d) Seller/vehicle..... ☐

e) Finance/money lender..... ☐

f) Other..... ☐

38. What is the market value of the vehicle now?.....Rs._____ ☐☐☐☐☐

INSURANCE

39. What type of insurance does the vehicle have?

a) None..... ☐

b) Franchise Certificate (Owner takes first Rs. 10,000 of risk)..... ☐

c) Third party (Act)..... ☐

d) Third party (Risk)..... ☐

e) Third party + Additions (eg fire, theft, personal accident)..... ☐

f) Comprehensive (Compensation is given for loss of vehicle in accident)..... ☐

g) Other (state)_____..... ☐ ☐

40. What is the annual premium?.....Rs.____ ☐☐☐☐

OPERATING EXPENSES

41. What general expenses have been incurred over the last 12 months in connection with operating this vehicle?

COMPLETE CHECK LIST 1 AND ATTATCH TO THE FORM.

42. What major items of work have been carried out on the vehicle in last 12 months?

COMPLETE CHECK LIST 2 AND ATTATCH TO THE FORM.

43. What minor repairs and replacement of parts has been carried out over the last 12 months?

COMPLETE CHECK LIST 3 AND ATTATCH TO THE FORM.

44. What is the estimated fuel consumption? _____ ☐☐

45. How often is the vehicle serviced?..... _____ ☐☐

46. How often is the engine oil changed?... _____ ☐☐

47. How often is the gear oil changed?..... _____ ☐☐

48. How many days has the vehicle been off the road over the last 12 months due to:

a) Accidents..... ☐☐☐

b) Breakdowns/Repair..... ☐☐☐

c) Illness..... ☐☐☐

d) Other reasons..... ☐☐☐

(For office use only)

		Date	Pass.	Rej.	Pass.	Rej.
Interviewer	_____	_____				
Checked	_____	_____	☐	☐	☐	☐
Coding	_____	_____				
Checked	_____	_____	☐	☐	☐	☐
Data Entry	_____	_____				

GOVERNMENT OF PAKISTAN
PLANNING AND DEVELOPMENT DIVISION
NATIONAL TRANSPORT RESEARCH CENTRE

NATIONAL SURVEY OF TAXI SERVICES — OWNER/OPERATOR SURVEY

CHECK LIST 1

	AMOUNT
VEHICLE REGISTRATION	☐☐☐☐☐
FITNESS TEST	☐☐☐☐☐
ROUTE PERMIT	☐☐☐☐☐
VEHICLE LICENCE (TOKEN TAX)	☐☐☐☐☐
LEGAL EXPENSES	☐☐☐☐☐
OTHER PROFESSIONAL FEES	☐☐☐☐☐
FINES	☐☐☐☐☐
COMPENSATION PAYMENTS	☐☐☐☐☐
GRATIFICATIONS - POLICE	☐☐☐☐☐
GRATIFICATIONS - OTHERS	☐☐☐☐☐
UNION FEES	☐☐☐☐☐
OTHERS (PLEASE SPECIFY)	
_____	☐☐☐☐☐
_____	☐☐☐☐☐
_____	☐☐☐☐☐
_____	☐☐☐☐☐
_____	☐☐☐☐☐
_____	☐☐☐☐☐

GOVERNMENT OF PAKISTAN
PLANNING AND DEVELOPMENT DIVISION
NATIONAL TRANSPORT RESEARCH CENTRE

NATIONAL SURVEY OF TAXI SERVICES — OWNER/OPERATOR SURVEY

CHECK LIST 2

	AMOUNT
RECONDITIONED/ENGINE	
NEW ENGINE	
OVERHAUL OF ENGINE	
REPAIRS TO CHASSIS	
MAJOR REPAIRS TO BODYWORK	
RESPRAY	
ACCESSORIES FITTED	

NATIONAL TRANSPORT RESEARCH CENTRE

NATIONAL SURVEY OF TAXI SERVICES OWNER/OPERATOR SURVEY

CHECK LIST 3

	REPLACEMENTS		REPAIRS	AMOUNT
	NEW	SECOND HAND		
ALTERNATOR (COIL)	☐	☐	☐	☐☐☐☐☐
GENERATOR (DYNAMO)	☐	☐	☐	☐☐☐☐☐
LIGHTS	☐	☐	☐	☐☐☐☐☐
DISTRIBUTOR	☐	☐	☐	☐☐☐☐☐
SPARK PLUGS	☐	☐	☐	☐☐☐☐☐
BATTERY	☐	☐	☐	☐☐☐☐☐
DIRECTION INDICATORS	☐	☐	☐	☐☐☐☐☐
OTHER ELECTRICAL	☐	☐	☐	☐☐☐☐☐
TYRES	☐	☐	☐	☐☐☐☐☐
INNERTUBES	☐	☐	☐	☐☐☐☐☐
STEERING	☐	☐	☐	☐☐☐☐☐
BRAKES	☐	☐	☐	☐☐☐☐☐
WHEEL ALIGNMENT/BALANCING	☐	☐	☐	☐☐☐☐☐
CLUTCH	☐	☐	☐	☐☐☐☐☐
GEARS	☐	☐	☐	☐☐☐☐☐
DIFFERENTIAL	☐	☐	☐	☐☐☐☐☐
BEARINGS	☐	☐	☐	☐☐☐☐☐
SHOCK ABSORBERS/SUSPENSION	☐	☐	☐	☐☐☐☐☐

CHECK LIST 3 (CONTD)

	REPLACEMENTS NEW	REPLACEMENTS SECOND HAND	REPAIRS	COST
CARBURETTOR	☐	☐	☐	☐☐☐☐☐
FUEL PUMP	☐	☐	☐	☐☐☐☐☐
EXHAUST/SILENCER	☐	☐	☐	☐☐☐☐☐
RADIATOR	☐	☐	☐	☐☐☐☐☐
HOSES	☐	☐	☐	☐☐☐☐☐
FAN BELT	☐	☐	☐	☐☐☐☐☐
UPHOLSTERY	☐	☐	☐	☐☐☐☐☐
SEATS	☐	☐	☐	☐☐☐☐☐
WINDOWS/DOORS	☐	☐	☐	☐☐☐☐☐
OTHERS (PLEASE SPECIFY)				
_____	☐	☐	☐	☐☐☐☐☐
_____	☐	☐	☐	☐☐☐☐☐
_____	☐	☐	☐	☐☐☐☐☐
_____	☐	☐	☐	☐☐☐☐☐
_____	☐	☐	☐	☐☐☐☐☐

The Table 4.2(a) shows that the highest purchase price Rs. 95,000 of rickshaw model 1981 which was purchased in 1986 and lowest purchase price Rs. 30,000 of rickshaw model 1978 which was purchased in 1979. Table 4.2(b) shows for taxicabs, the highest purchase price Rs. 75,000/- of model 1973 which was purchased in 1986, and the lowest purchase price Rs. 10,000/- of model 1966 which was purchase in 1984. Table 4.3 has been prepared to show the percentage of rickshaw drivers indicating the purchase price range. Purchase price here means the price paid to the seller plus the amount spent by the buyer on first-time repair/renovation on the vehicle before bringing it on to the road.

The survey results of first-time renovation cost is given in Table 4.4. Owner-driver of rickshaw gave the cost as Rs. 3,005/- and other owners as Rs. 5,300/- resulting in an average cost of Rs. 4,152.50 and owner driver of taxicab gave the cost as Rs.3,008.82 and other owners as Rs. 5,967.85 resulting in an average cost of Rs. 4,488.33. Rickshaws and taxicabs were either purchased outright or on instalments. This indicates (Figure 4.2) that 68% of owner-drivers purchased by making outright payment while 79% of other owners purchased outrightly. 31.69% owner-drivers and 17.7% of other users purchased rickshaws on instalments and 32% of owner-drivers of taxicab purchased by making outright payment while 35% of other-owner purchased outrightly. 16% owner-drivers and 5% of other owners purchased taxi on instalments basis. Figure 4.3 shows the answer to the question on ease of instalment payment. For rickshaw 16.0% of owner-driver and 43.0% of other owners termed the payment as easy while 56.0% of owner-drivers and 47.0% of

Table 4.1

AVERAGE MARKET VALUE
(All Models)

(Rupees)

	Rickshaw	Taxi
Owner Driver	58,269.23	24,187.50
Other Owner	61,059.43	27,254.50
All Owner(Average)	59,664.33	25,721.00

Table 4.2(a)
Price by Year of Purchase

RICKSHAW

(In 1000)

MODEL	YEAR OF PURCHASE													
	1974	75	76	77	78	79	80	81	82	83	84	85	86	87
1970	-	-	-	-	-	-	-	35.0	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-	-	-	55.0	-
1972	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	-	-	-	60.0	-
1974	-	-	-	-	-	-	46.0	-	-	-	-	-	-	-
1975	52.0	42.5	-	-	-	-	-	-	55.0	-	47.0	-	55.0	-
1976	-	-	-	-	-	-	-	-	-	85.0	64.0	60.0	68.5	38.0
1977	-	-	-	-	-	-	35.0	-	-	-	-	-	-	-
1978	-	-	-	-	-	30.0	-	-	-	45.0	65.0	48.0	65.0	68.0
1979	-	-	-	-	-	35.0	33.4	-	-	55.0	-	-	66.0	-
1980	-	-	-	-	-	-	60.0	70.0	-	50.0	40.0	55.0	72.5	70.0
1981	-	-	-	-	-	-	-	93.0	-	-	75.0	-	95.0	-
1982	-	-	-	-	-	-	-	-	-	-	62.0	95.0	-	-
1983	-	-	-	-	-	-	-	-	-	60.0	-	-	-	67.0

Average Purchase Price : Rs. 56,500.

Table 4.2 (b)
Price by Year of Purchase

TAXI

(In 1000)

MODEL	YEAR OF PURCHASE										
	1971	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
1965	-	-	-	-	18.0	-	-	-	-	17.0	-
1966	-	-	-	-	-	20.0	24.0	10.0	18.0	15.0	18.0
1967	24.0	-	-	-	35.0	-	22.3	22.6	25.25	23.4	27.0
1968	-	18.0	-	-	-	-	-	30.0	28.0	14.0	-
1969	-	-	-	-	26.0	29.0	-	14.5	28.0	26.5	-
1970	-	-	-	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	-	-	-
1972	-	-	-	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-	-	75.0	-

Average Purchase Price : Rs. 30,500.

Table 4.3
Purchase Prices

Purchase Price	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65
< 500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5100-10000	-	-	-	-	-	7.7	-	-	-	-	-	-	-	-	-	11.1	-	14.3	-
10100-15000	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	20.0	11.1	-	42.9	-
15100-20000	-	-	-	-	-	-	-	-	-	-	50.0	-	-	-	-	11.1	25.0	28.6	100.0
20100-25000	-	-	50.0	-	10.0	7.7	16.7	16.7	-	-	-	-	-	-	20.0	44.4	41.7	-	-
25100-30000	-	-	-	-	30.0	-	8.3	8.3	25.0	20.0	-	-	-	-	40.0	11.1	25.0	14.3	-
30100-35000	-	-	-	75.0	30.0	30.8	8.3	25.0	-	20.0	-	-	-	-	20.0	11.1	8.3	-	-
35100-40000	-	-	-	-	10.0	7.7	25.0	16.7	25.0	20.0	-	-	-	-	-	-	-	-	-
40100-45000	-	-	-	-	10.0	7.7	16.7	16.7	-	-	-	-	-	-	-	-	-	-	-
45100-50000	-	-	-	-	10.0	-	-	-	-	20.0	-	-	-	-	-	-	-	-	-
50100-55000	-	-	-	-	-	-	-		25.0	-	-	-	-	-	-	-	-	-	-
55100-60000	-	-	-	-	-	15.4	16.7	16.7	25.0	-	-	-	-	-	-	-	-	-	-
60100-65000	-	-	-	-	-	7.7	8.3	-	-	-	-	-	-	-	-	-	-	-	-
65100-70000	100.0	-	-	12.5	-	15.4	-	-	-	-	-	-	-	-	-	-	-	-	-
70100-75000	-	-	50.0	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75100-80000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80100-85000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>85000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4.4

First-Time Renovation Cost
(At the time of Purchase)

	Rickshaw	Taxi
Owner	3,005.0	3,008.82
Other owner	5,300.0	5,967.85
All	4,152.50	4,488.33

Figure 4.2
Mode of Purchase

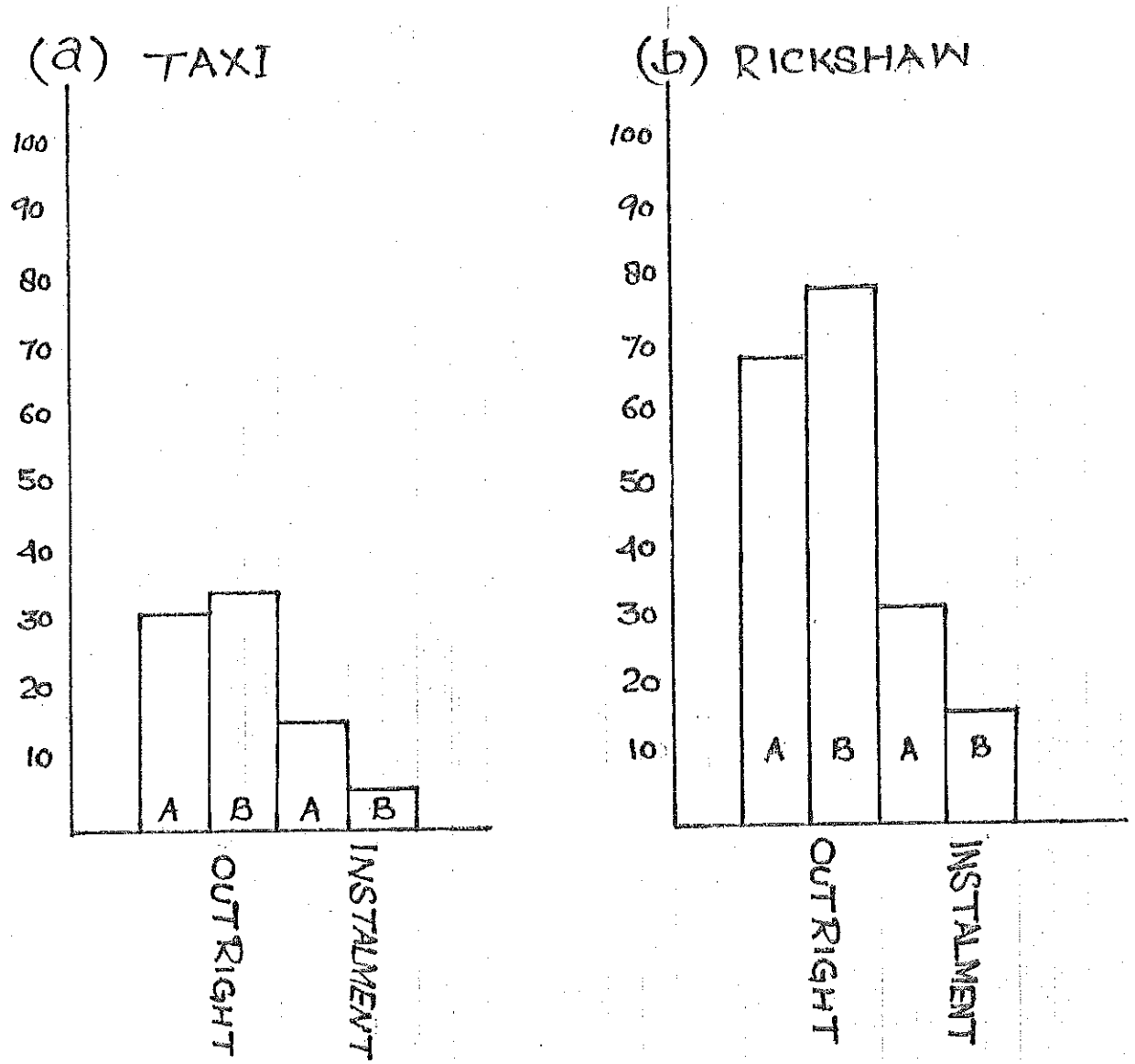
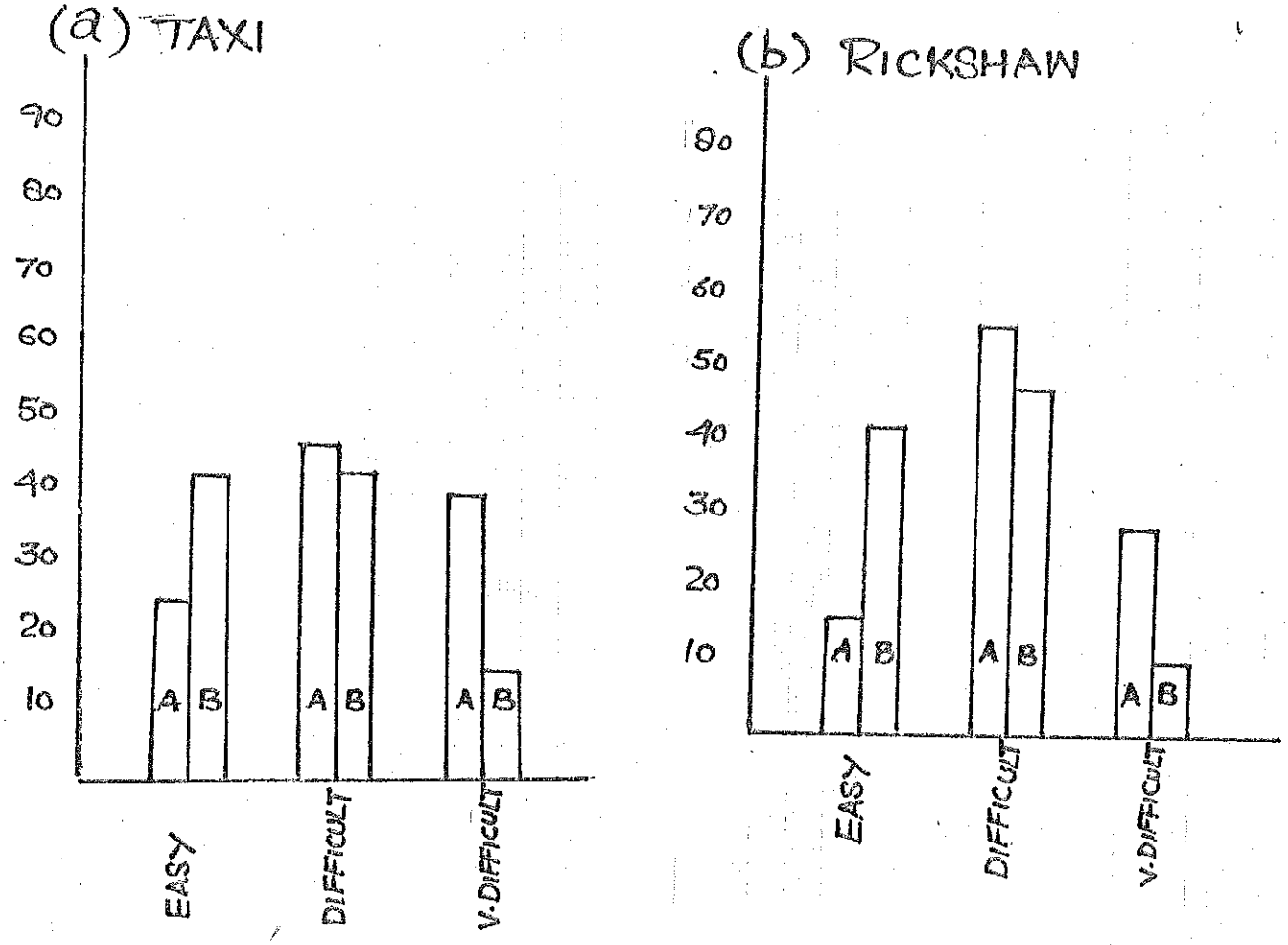


Figure 4.3

Ease of Repayment



other drivers called it difficult. 28.0% rickshaw driver-owners and 10.0% other owners termed the payment as very difficult. For taxicab 25% of owner-driver and 42% of other-owner termed the payment as easy, while 46% owner-driver and 42% called it difficult, 39% of owner-driver, 15% of other owner called it very difficult.

With so many of the finance agreements (Figure 4.4) being directly between purchaser and seller (owner-driver, 88% and other owners, 31% for rickshaws and for taxicabs 43% owner and 76% other owner) there is a great deal of instability and insecurity for both parties involved in the transactions, especially as vehicles are not insured. There were many stories recounted to the interviewers of cases of forcible repossession of vehicles, of the hardships encountered when vehicles break down, resulting in an incapacity to earn revenue to either pay for repairs or keep up with repayments, and of cases where vehicles seriously damaged in accidents are simply returned to the seller with the purchaser unilaterally rescinding the agreement.

Average repayment periods were in the region of 30-35 months. For loans on rickshaw (Figure 4.5) the monthly instalment is typically Rs. 800 to 2200 (for 90%) and for taxicab Rs. 300 to 2300. This level of monthly repayment

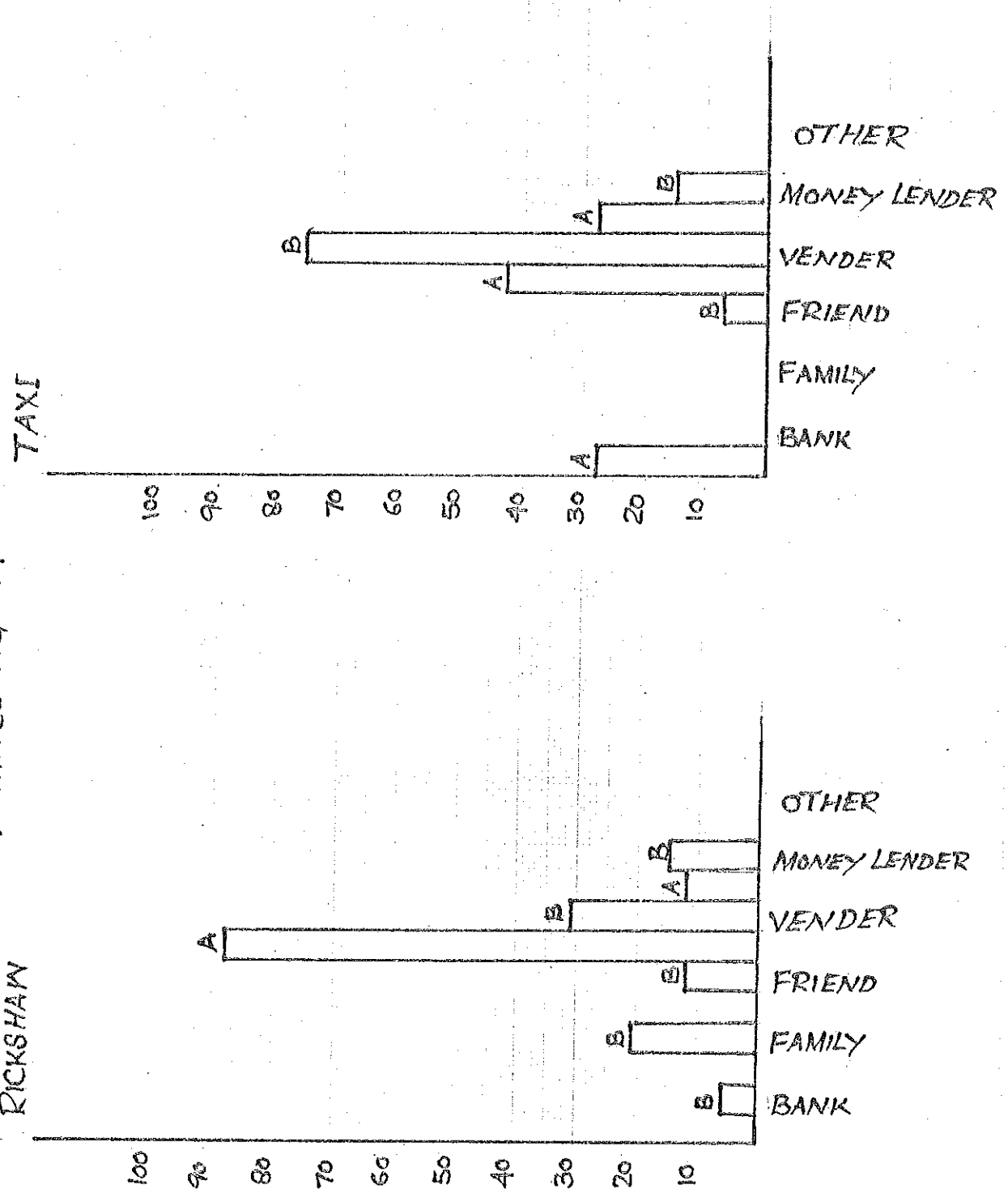


FIGURE 4.4:
FINANCE AGENT

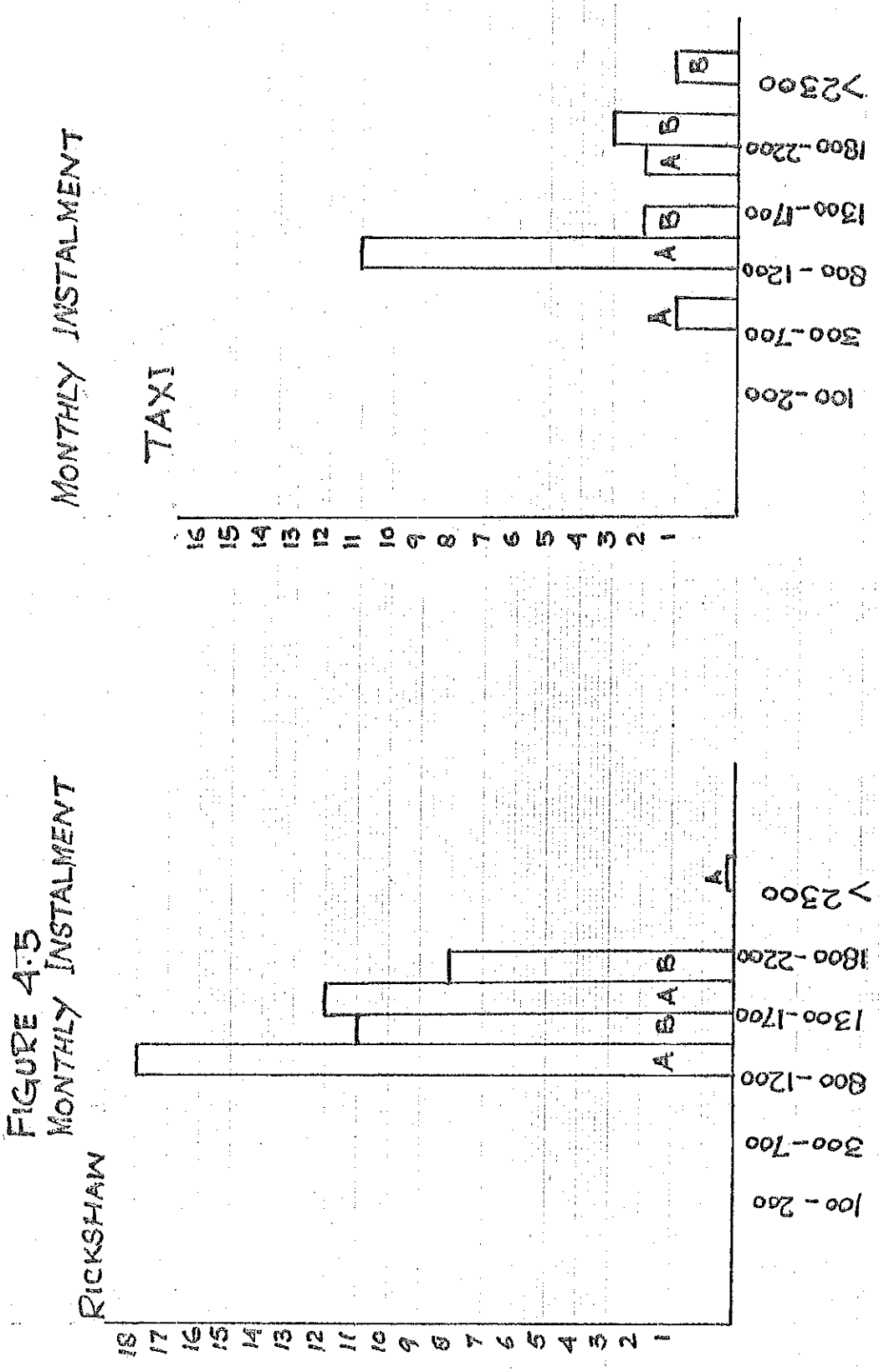

MONTHLY INSTALMENT
TAXI
100 - 200
300 - 700
800 - 1200
1300 - 1700
1800 - 2200
2300
MONTHLY INSTALMENT
RICKSHAW
100 - 200
300 - 700
800 - 1200
1300 - 1700
1800 - 2200
2300

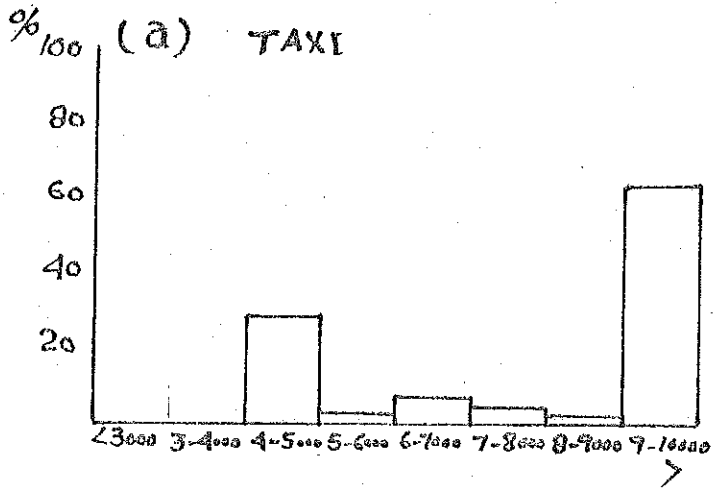
FIGURE 4.5

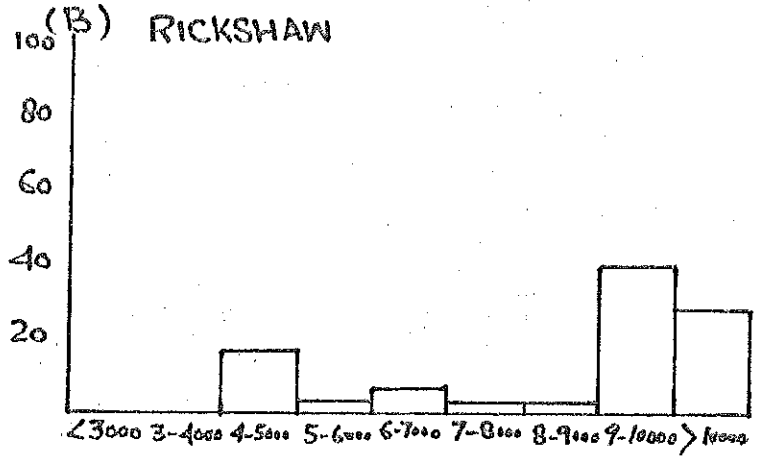
is particularly onerous for the taxi owner who is in effect trying to put together the capital for the purchase of the vehicle out of his current earnings. Whilst we in this study are concerned with the economics of taxi ownership and operation and hence are not really concerned with the cash flow aspects of the business, or when and how the capital for vehicle aquisition was obtained, the data on net earnings shown later in this study show that on average it is not a feasible proposition to 'save' large sums out of net earnings in order to buy a vehicle.

Amount of initial deposit (Figure 4.6) varies from anything less than Rs. 4000 to Rs. 10,000. In most cases initial deposit is Rs. 9,000 - 10,000 (40% of transaction), cash price of rickshaws is shown in Figure 4.7 which is distributed over a wide range.

Figure 4.8 shows that the majority of owner purchase rickshaw and taxicabs by own resources (90 to 99.0%) and balance purchase by family loan and from friends. It is also seen that no body takes the loan from bank, gift and money lender.

Figure 4.6
Initial Deposit





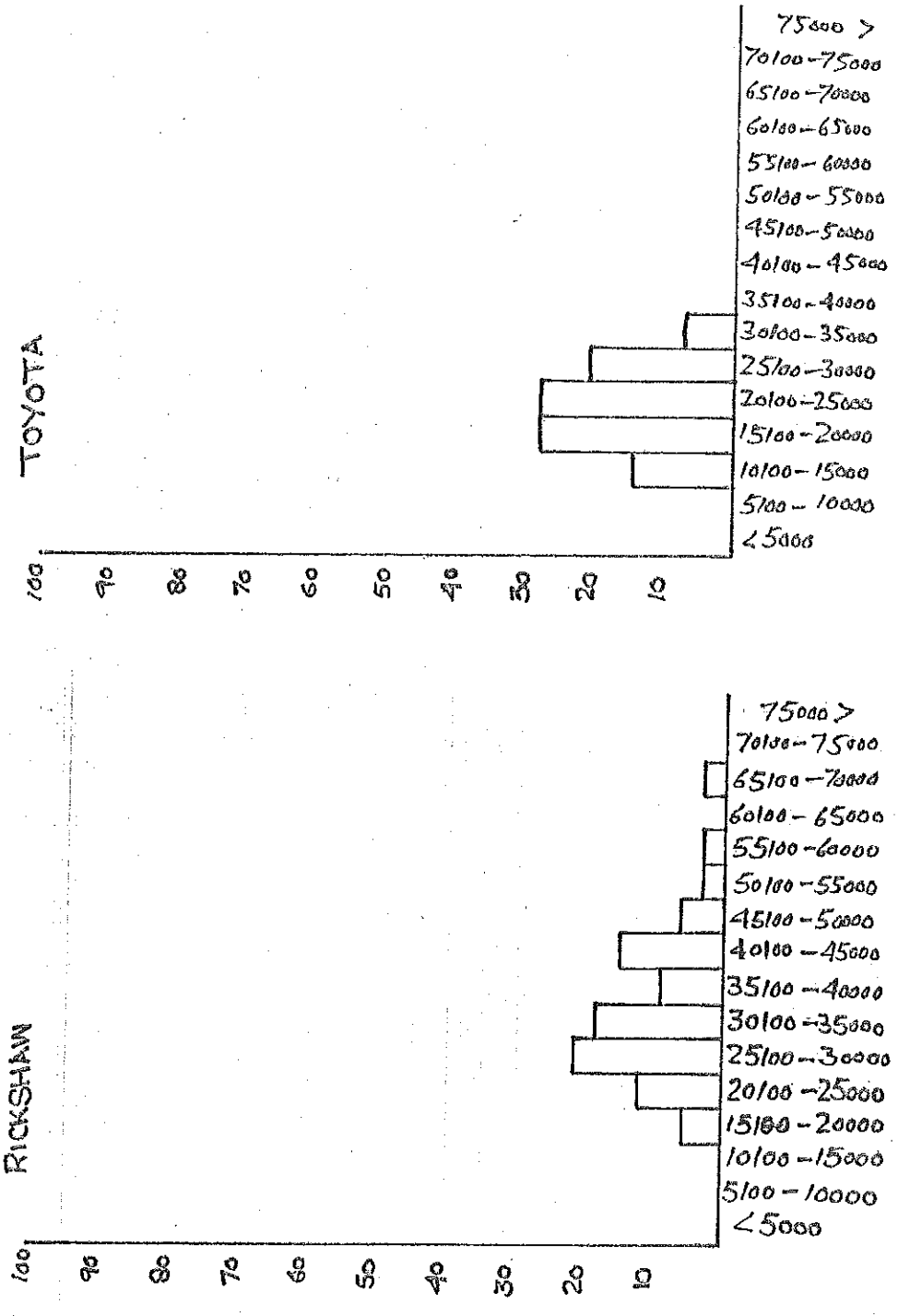


FIGURE 4.7:
CASH PRICE

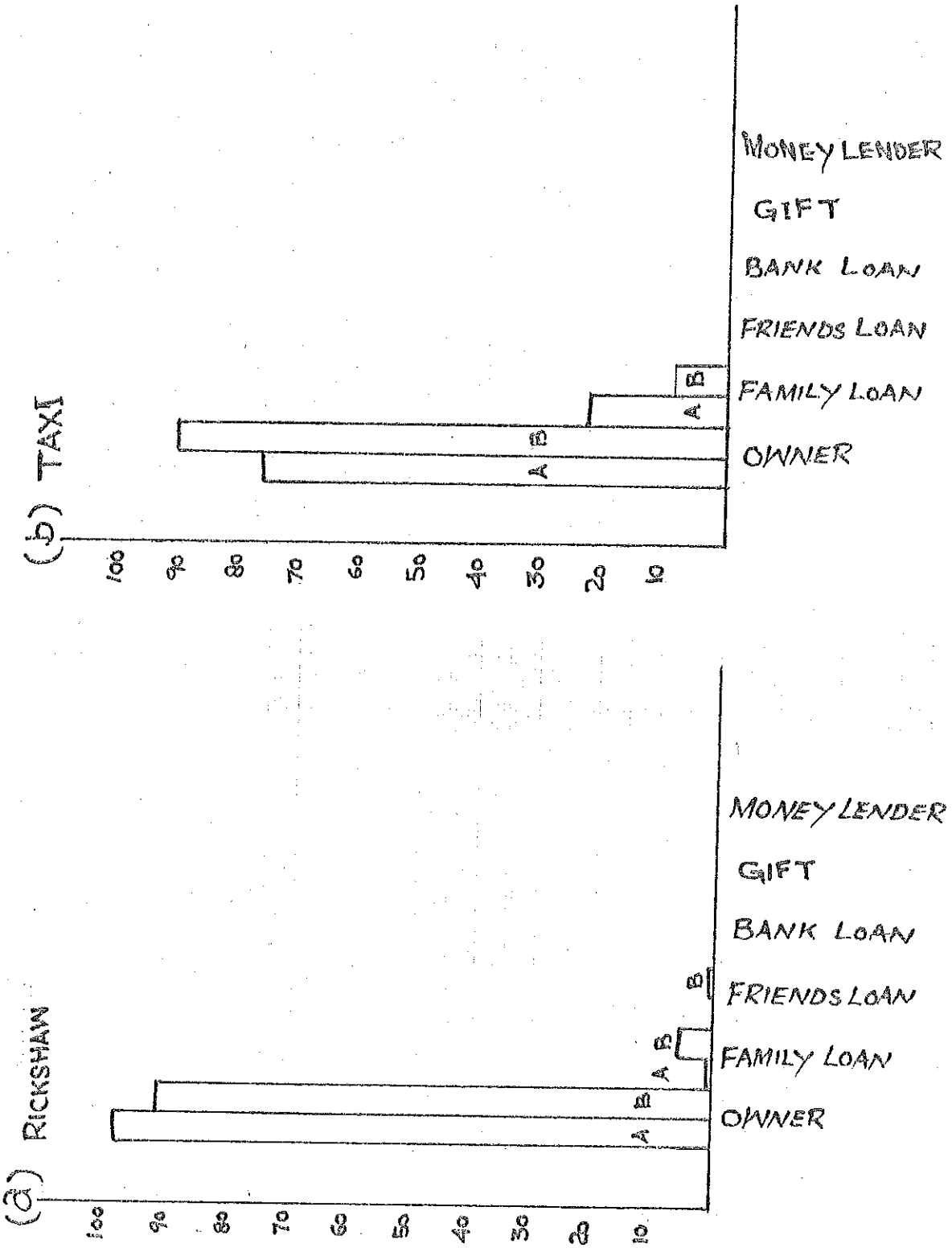


FIGURE 4.8:
CAPITAL SOURCE

4.4 OPERATING COSTS

To consider the vehicle operating costs it is convenient to classify the cost items into fixed and variable costs (variable costs are those which alter as a direct ratio of the distance covered by the vehicle) and to convert the sum of the total operating costs into a unit cost, i.e. as a cost per unit distance or time.

In this study we have, by and large, adhered to this convention, although certain cost items have been aggregated in a way which corresponds closer to the peculiarities of the structure of the industry in Pakistan.

There are three broad categories:

- Fixed
- Semi-fixed
- Variable

(1) Fixed Costs:

Fixed costs are largely those associated with the capital invested in the enterprises. They are termed fixed because they should be independent of variations in output. In other words, they are costs which are necessarily incurred irrespective of whether the vehicle covers 10 kms or 100,000 kms in a year's operation.

Included under this heading we have:

- The capital value of the vehicle, treated in terms of the opportunity costs of that capital.

4.4.1 Fixed Costs:

(1) Capital Value: The appropriate factor for consideration in the calculation of the capital costs is the market value of the vehicle at the beginning of the accounting period. The cost to be calculated is the investment income frozen by retaining the vehicle and operating it as a taxi, rather than investing the equivalent amount in an alternative enterprise or depositing the money in a bank to secure a lower but more assured return on the investment. From the survey data we calculated the average purchase price of rickshaws and taxicabs which included the repair/renovation cost incurred by the driver initially to make his vehicle road worthy.

Investments in the low risk government bonds and saving schemes of return give 12% for public investment. We finally adopted a short - median term investment given an annual return of 15% as our bench mark in the calculation of income of drivers and owners.

(2) Other Fixed Costs: The great majority of owners possess just a single vehicle and in none of the cases covered in the survey were there any premises being used in connection with the operation of the taxi business.

Taxis appear to be parked overnight on the public highway, at the owners home or on vacant ground. Hence in the present context we can ignore premises and equipment as a cost item.

Information concerning remaining items of fixed costs were gathered using a check list attached to the questionnaire. Average annual fixed costs are given in table 4.5 and total average annual fixed costs are shown in table 4.6.

(a) Token Tax: This tax is levied on all motor vehicles and collected by the Excise and Taxation Office of the Provincial Government. The prescribed rate at the time of the survey was Rs. 245/- per year for rickshaws and Rs. 570/- per year for taxicab. As many as 43.7% of rickshaw other owners are evading payment of annual token tax.

(b) Registration: A fee of Rs. 450/- is payable to the Licencing Authority for the registration of new taxis and rickshaws, in the case of a change of ownership or address for a previously licensed vehicle, and in the case of registering a change of category from private car to that of Public Service Vehicle.

Table 4.5(a)

Average Annual Cost (Other Fixed Costs)

	(Rickshaw)	
	Owner/operator	Contractor
Vehicle Registration	450	450
Fitness Test	106.38	122.01
Route Permit	93.74	94
Token Tax	245.32	250.25
Legal Expenses	37.56	0
Other professional Fee	12.25	3.56
Fines	395.06	552.71
Compensation payment	19.23	5.94
Gratification Police	288.64	631.93
Gratification other	24.84	18.81
Union Fees	60	60
Committee Fees	2.04	61.38
	1735.06	2250.53

Table 4.5(b)

Average Annual Cost (Other Fixed Costs)

	(Taxi)	
	Owner/Operator	Contractor
Vehicle Registration	450	450
Fitness Test	184.08	185.09
Route Permit	264.05	338.64
Token Tax	570.02	617.84
Legal Expenses	23.11	2.6
Other Professional Fee	3.01	47.2
Fines	907.04	784
Compensation payments	12.26	19
Gratification Police	68.09	811
Gratification Others	0	12
Union Fees	58	58
Committee Fees	13.21	0
	2552.87	3325.37

Table 4.6

Total Average Annual Fixed Costs

	Rickshaws	Taxi
Owner Driver	1,735	2,552.87
Other Owners	2,250	3,325.37
All Owners	1,992.50	2,938.93

(c) Union Fees

There is a union for rickshaw and taxicab drivers in Lahore. The annual membership fee quoted is Rs. 60.00 per annum for rickshaw and Rs. 58/- per annum for taxicab. It is known that the participation rate is very low but even so membership seems to be largely confined to owner-drivers.

(d) Insurance

The premium for an insurance policy to cover statutory third party liabilities is Rs. 145.00, and there is a clear legal obligation for all motor vehicle to be covered for at least these risks.

The relevant statute is the Motor Vehicles Act 1939. Section 95.2(b) which defines the maximum liability for which insurance cover is required for taxis at Rs. 4,000 per passenger (with a maximum of rs. 20,000 with respect to passengers) and a maximum of Rs. 20,000 in respect of other persons (non-passengers).

The survey showed that 35% of rickshaw and 34% of taxi owners carried no insurance cover whatsoever, while only a small minority (less than 5%) actually had any valid insurance cover. The remainder satisified the legal requirement of being able to produce a certificate of insurance by the adoption of one of two practices:

(i) The purchase from a non-tariff company of a certificate of insurance which is stamped 'Franchise certificate'.

In this arrangement, the insured is liable to pay the first Rs. 10,000 of any claim. The franchise certificate should only be issued if the company is appraised of the insured's financial background and is satisfied that the insured could in practice meet the liabilities at risk. However, we are informed that the provisions of this safeguard are not adhered to.

(ii) The other more widely adopted option is to purchase a certificate of insurance purporting to provide 'Third Party Act' cover. It is reported however that the possession of such a certificate does not guarantee that there is in fact any real insurance cover involved. In effect, the certificate is issued merely for the purpose of satisfying the legal requirement that the vehicle owner should be able to produce a certificate of insurance. The price paid is a fee solely for the issuance of the certificate and does not constitute the payment of any premium or the writing of an insurance policy.

(e) Route Permit:

The route permit issued by the RTA, Lahore has a validity of three years. The authorized fee is Rs.264/- & 93/- respectively for both taxicabs and rickshaws, and hence the average annual cost should be one third of the above fee (Rs. 66.66).

In practice however the actual average costs are four times higher than they should be. This is most probably attributable to the frequently reported necessity of having to employ agents or make ex-gratia payments in order to 'expedite' the release of permits form the RTA Office.

(f) Fitness Test

Each taxi is required to undergo a vehicle fitness test every six months. The test is carried out by a vehicle examiner under the responsibility of the Deputy Superintendent of the Traffic Police (DSP) in Lahore. The authorized fee is Rs.106/- & 184/- respectively for rickshaw and taxicab per vehicle for the first examination & Rs.25/- for each subsequent examination. In cases where vehicle are presented for examination after the expiry of the previous certificate, a late fee of Rs. 125.00 is charged. Average costs per vehicle are given in Table 4.5. On the assumption that it is unlikely taht every vehicle is always charged a late fee, the reported costs are well in excess of the authorized fees; this time by a factor of five.

(g) Compensation Payments

Given that so many vehicles are effectively unisured, and the fact that those that are only covered against third party personal injuries, there arises the possibility that owners would have to pay compensation to third parties, either for personal injuries or for vehicle damage arising from involvement in accidents. However, it transpired that this element does not figure largely as a component of operating costs since the prevailing practice in the event of an accident is for each party to pay for the repairs to his own vehicle, irrespective of who is to blame for the accident.

(h) Gratifications to Traffic Police:

A marked feature of the operating environment for all public transport operators in Pakistan is the necessity of having to make periodic payments to the traffic police. This practice is now so deep-rooted and widespread that it has assumed some significance as a component of operating costs. During the survey, not all owners would admit to this practice, but others assured us that all taxi operators had to make payments in some measure. Hence the costs reported in Table 4.5 , averaged across the whole industry, are most probably an underestimate of the total sums involved.

(i) Fines

Closely associated with the expenses incurred in payment to the Police are costs incurred in payment of fines. It has not been possible within the time constraints of this study to examine court records and analyse the nature of the offences committed, but the general impression is that the majority of challans (summons) are issued in connection with irregularities in vehicle documentation and hence are related to the standing charges or fixed costs of vehicle ownership. One observation warranted on the figures quoted in Table 4.5 , is that the costs given here would not tally with an assesment made from court records, since only a small portion of the sums paid over by the taxi owners and drivers at the courts find their way into the public exchequer.

(j) Miscellaneous Costs:

There are occasions when the vehicle owner incurs additional expenses in connection with the ownership, registration, licensing, etc of the vehicle, It was discovered during the course of the survey that some owners use the services of an agent to look after the bureaucratic aspects of ownership, and an inclusive fee is paid to cover costs of obtaining permits and paying taxes. In many of these cases the owner was not able to say how much of the fee paid to the agent went to cover gratuities, the official charges and fees, or the agents fee. To some extent portions of such agent's fees and the necessary gratuities will be already included in the figures for such items as route permits etc. quoted earlier. The residue of these costs are enumerated in Table 4.5 . The low average figures given are attributable to the small number of respondents reporting any expenditure under this heading.

4.4.2 Semi-Fixed Costs:

(1) Vehicle Renovation: As explained in the introduction of this chapter in view of the age compsoition of the vehicle fleet, there are certain major items of expenditure which are periodically incurred in order to keep the vehicle on the road and for the older vehicles in particular, these costs can be viewed as being incurred partly in lieu of depreciation. It was thought that they should be differentiated from routine maintenance costs and the most convenient way to handle them was to categorize them separately. Not every vehicle will necessarily incur a particular item of major expenditure every year, but our sample is large enough so that the within group averages it will approximate to the average annual cost for a single vehicle.

Four major items were included:

- Engine
- Bodywork
- Chassis
- Gearbox

The costs recorded for each of these items are shown in Table 4.6 and the total for all items in Table 4.7.

Table 4.7
Average Annual Cost of Renovation

Taxi

	OWNER OPERATOR	CONTRACTOR
Recondition Engine	000	000
New Engine	0	0
Over-haul of Engine	3500	3466
REpairs to Chasis	488	688
Body Work	626	918
Respray	258	420
Accessories fitted	0	16
	4872	5508

Rickshaw

Recondition Engine	0	0
New Engine	0	0
Over-haul of Engine	2000.0	2523.26
Repairs to Chasis	240.56	250.74
Body work	664.04	439.10
Respray	0	21.38
Accessories fitted	4.11	0
	290871	3234

(2) Labour Costs: Details of the vehicle hire contracts and wages prevailing in the Lahore taxi industry have been recorded. Here we need to indicate how those costs should be accounted.

The simplest case is that of the owner driver, where in all but the exceptional cases there are no labour costs accruing to the operation - labour is recompensed out as profits. For the remainder, we shall eventually need to elucidate where responsibilities for different cost components lie - with the contractor or with the owner - and how the revenues are split between the two parties, but at this stage of the analysis the assignment of costs is not particularly material. The relevent annual costs are not proved feasible to carry out a full categorization of labour costs by individual vehicle type. The large majority of contracts in the taxicab sector are of the simple contract hire form, and hence these two types are typical for the industry as a whole.

The total average annual semi-fixed costs are given in Table 4. 8. Since owner drivers as a rule do not have any direct labour costs it would in this case be misleading to give an average figure for both ownership categories.

4.4.3 Variable Costs:

(1) Vehicle Maintenance & Repairs: Conventional cost models distinguish between labour and part replacement in accounting for maintenance costs. In this case it was not possible

Table 4.8
Total Average Annual Semi-Fixed Costs

	Rickshaw	Taxi
Owner Drivers	2909	4872
Other Owners	14994	15228
All owners	8951	10050

Note: Cost against other owners include the wages of the driver while for owner-driver no wages are included.

to do this since due to the informal and small scale nature of the motor repair industry owners were in many cases unable to distinguish between the part and labour components of the cost of replacement of a worn out part or a repair.

Expenditure on part replacement and repairs in vehicle maintenance were tackled in the interview by following a fairly comprehensive pre-prepared check list dealing item by item with most eventualities. The average annual maintenance and repair costs are given in Table 4.9 and Figure 4.9, with items grouped into four categories; electrical, mechanical, tyres and innertubes, and bodywork. Tyres and innertubes account for approximately 31.11% of the total costs. Whilst battery replacement, viewed as a major cost item in previous vehicle operating cost studies in Pakistan, accounts for only about 13.38% of part replacement and repair costs.

In order to check on the consistency of the reported data, a survey of spare part prices was conducted with several dealers in Lahore; the results of which are shown in Table 4.10.

Table 4.9 (a)

Average Annual Maintenance (Repair Costs) — Rickshaw

	Owner/Operator	Contractor
A) Electrical		
Alternator Coil	194.0	175.27
Generator(Dynamo)	0	0
Lights	186.66	124.31
Distributors	54.66	25.38
Spark Plugs	90.66	210.23
Battery	836.66	355.04
Direction Indicators	97.66	53.72
Other Electrical	140.0	11.53
B) Tyres (Inner Tubes)		
Tyres	1346.66	1386.72
Inner Tubes	-	-
C) Mechanical		
Stearing	30.0	244.69
Brakes	134.66	324.13
Wheel Alignment	0.0	0.0
Clutch	120.00	157.1
Gears	121.33	264.12
Differential	43.33	58.2
Bearings	90.0	101.64
Shock Absorbers	182.33	128.66
Carburator	56.66	131.34
Fuel Pump	0	0.0
Exhoust/Silever	83.33	106.53
Radiator	84.0	0.0
Hoses	89.26	0.0
Fan Balt	0.0	0.0
D) Body Work		
Upholstery	197.33	247.05
Seats	273.33	132.4
Windows/Door	86.66	21.83
	4539.18	4259.89

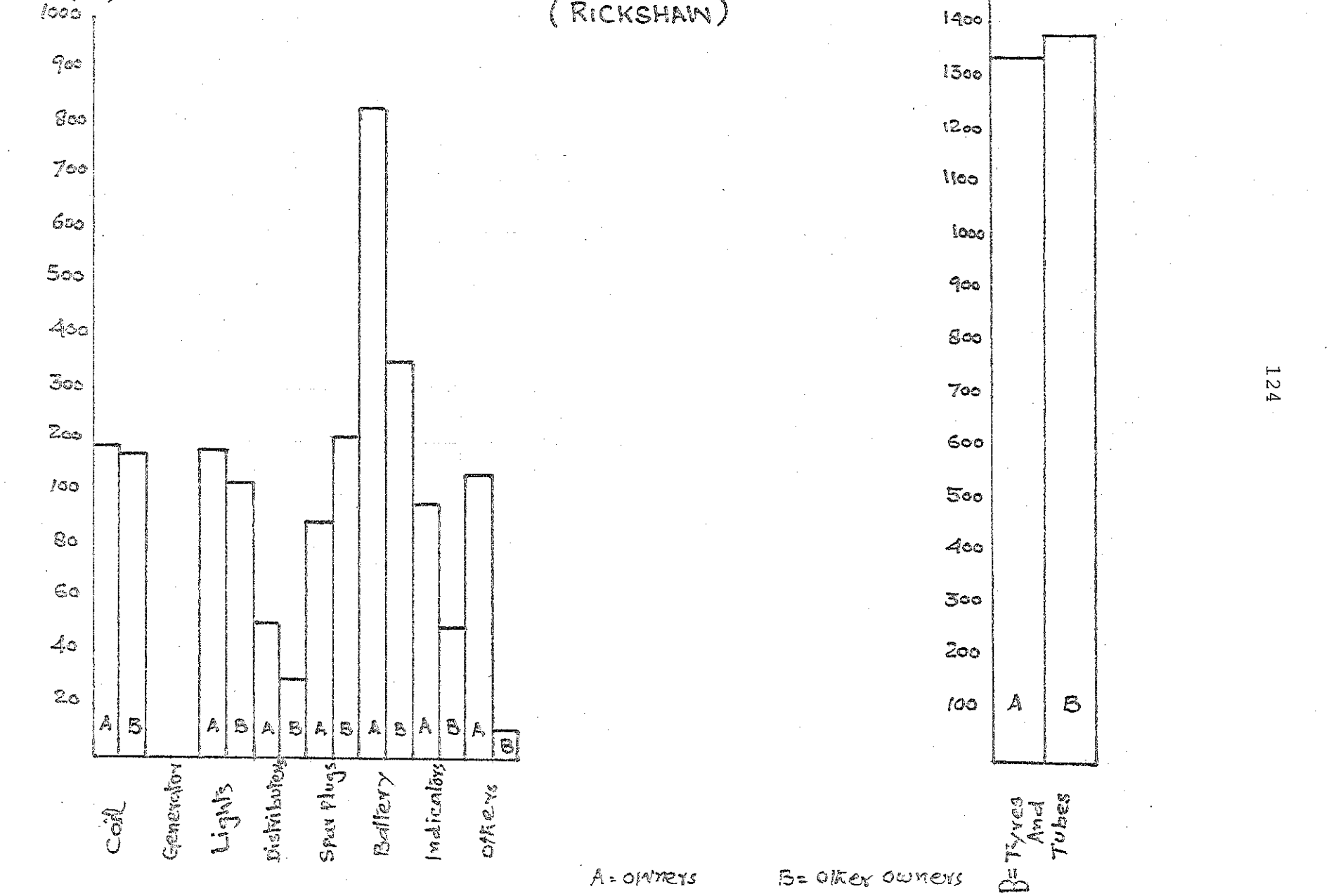
Table 4.9 (b)

Average Annual Maintenance (Repair Costs)

Taxi

	Owners/Operators	Contractors
A) Electrical		
Alternator (coil)	184.6	114.24
Generator (Dynamo)	149.12	104.8
Lights	138.2	180.7
Distributors	76.8	159.2
Spark plugs	193.44	210.68
Battery	455.8	441.7
Direction Indicators	37.4	52.2
Other Electrical	45	146
B) Tyres (Inner Tubes)		
Tyres	1961.6	2287.4
Inner Tubes	-	-
C) Mechanical		
Stearing	111.8	217.6
Breaks	304.4	332.3
Wheel Alignment	27.66	89.94
Clucth	122.36	92.7
Gears	38.2	118
Differential	42.92	217
Bearings	154.22	118
Shock Absorbers	130.9	346.1
Carburetor	144.66	239.9
Fuel Pump	31.9	97.2
Exhaust/Silecer	179.4	172
Radiator	64.82	152.6
Hoses	45.96	52.5
Fan Belt	45.56	64.36
D) Body Work		
Upholstry	147.3	204.8
Seats	26	174.6
Windows/Door	36	61
	4896.62	6447.52

FIGURE 4.9
Average Annual Maintenance & Repair Cost
(RICKSHAIN)



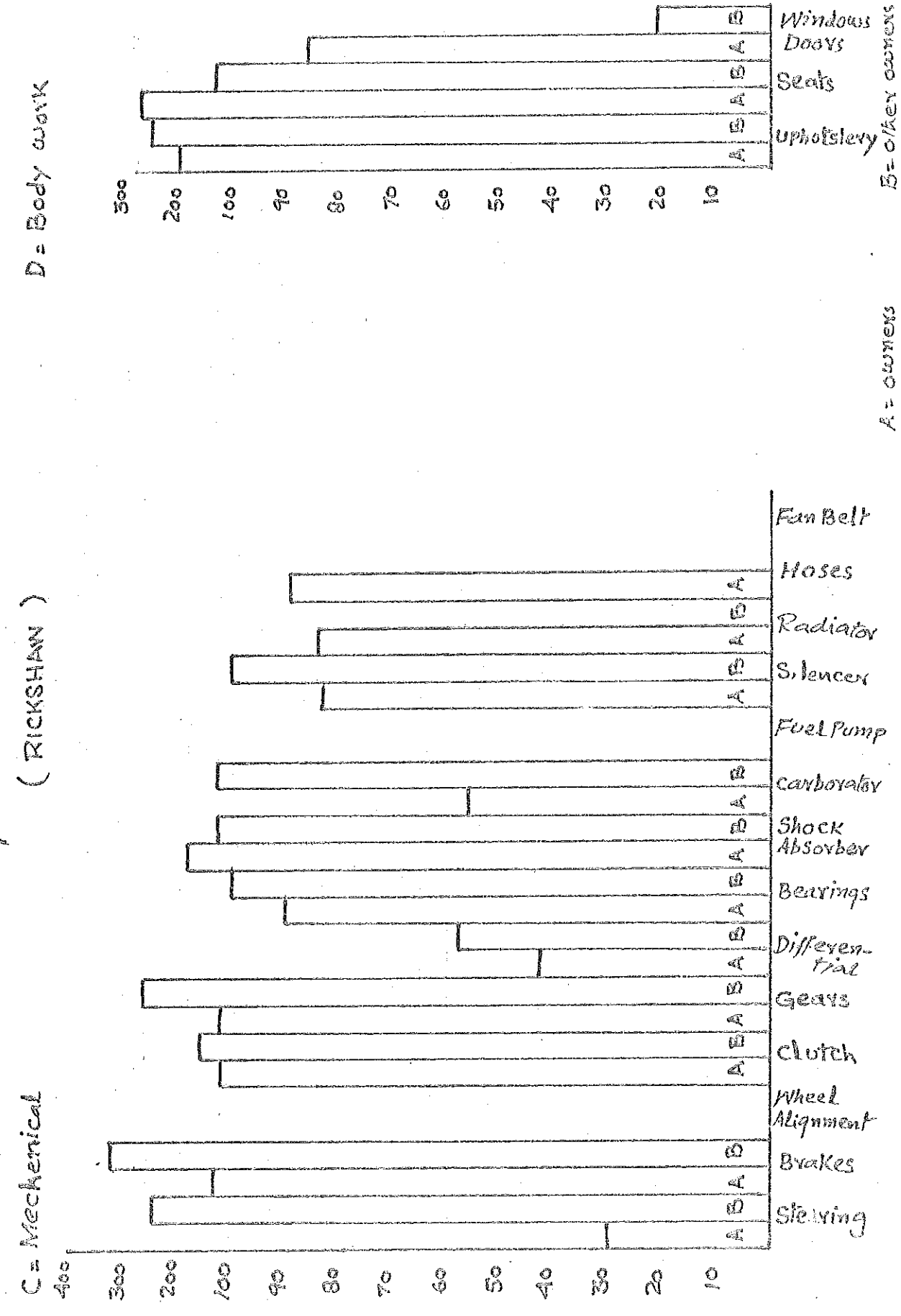


FIGURE 4.9(a)
Average Annual Maintenance & Repair Cost
(RICKSHAW)

FIGURE 4.9(b)
Average Annual Maintenance (Repair Costs)
Electrical and Tyres (TAXI)

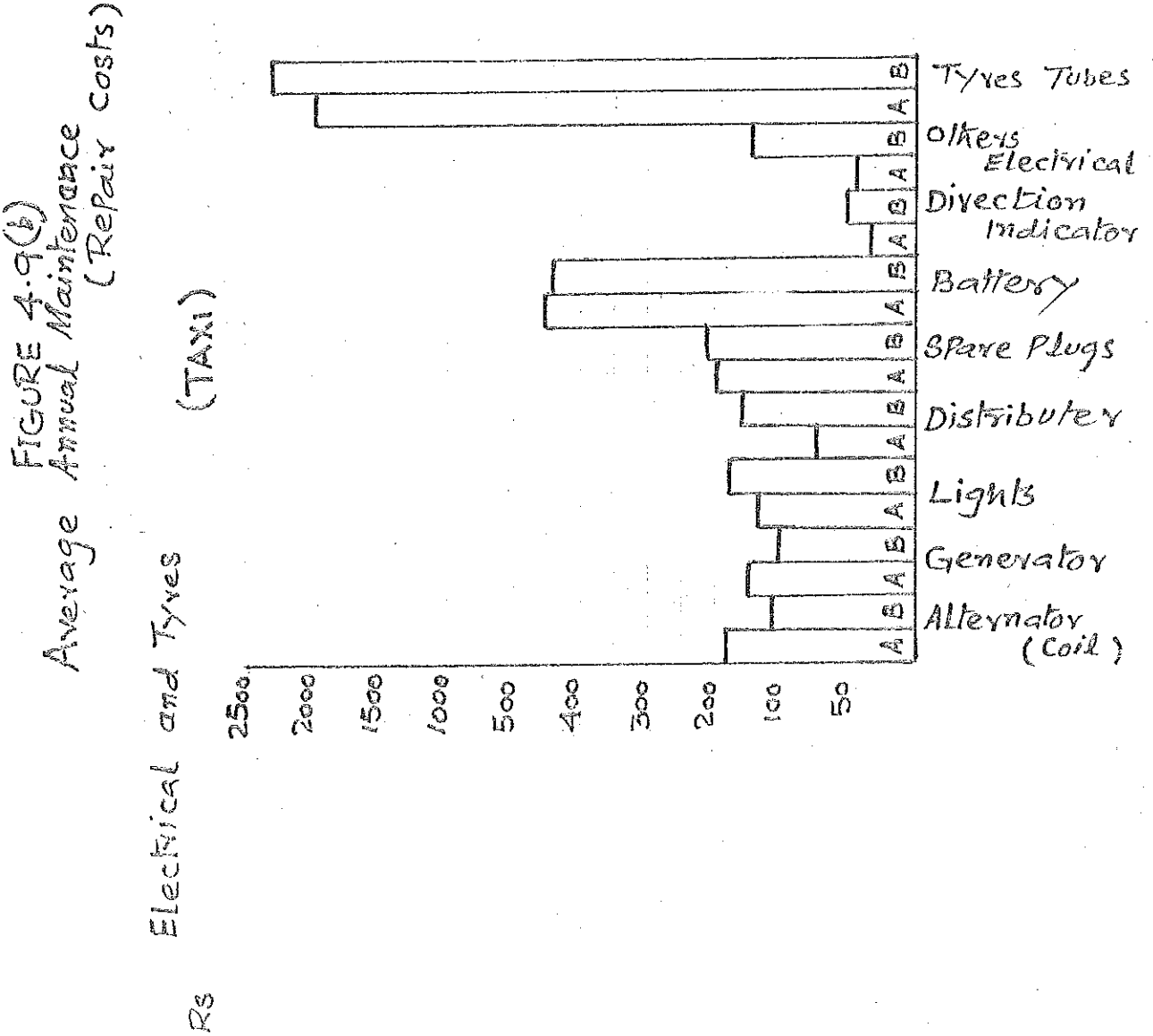
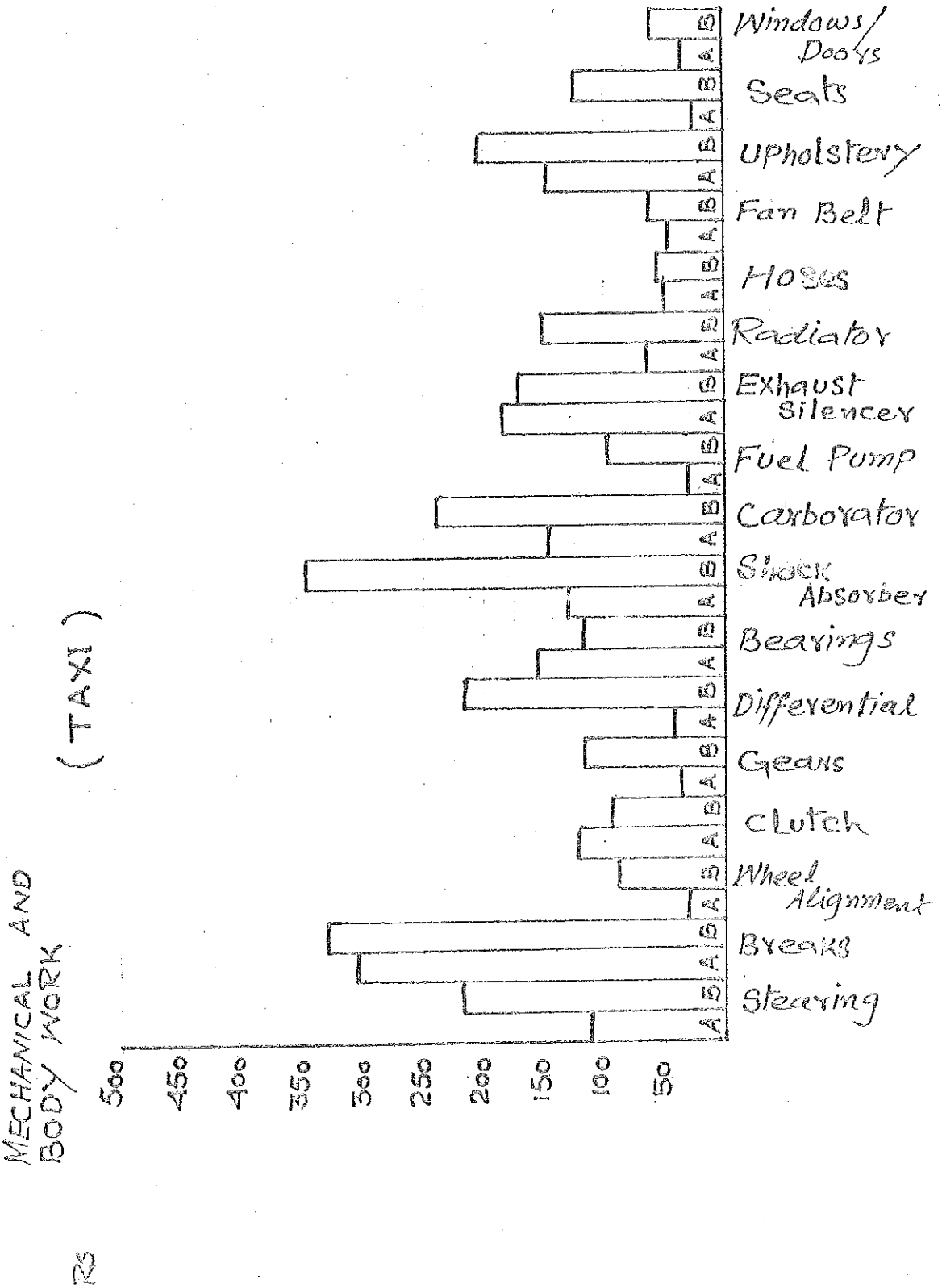


FIGURE 4.3(C)

Average Annual Maintenance (Repair Costs)

MECHANICAL AND BODY WORK (TAXI)



Rs

Table 4.10 (a)

Prices for Auto Parts From Dealers in Lahore

a) Rickshaw

S.No.	Item	Rate (Rs.)	Origin	Remarks
1.	Alternator/Coil	35/- 1	Pak	1 used
2.	Head Light	180/- 1	Foreign	1 used
3.	Comb bush/ Distributor	25/- 1	"	1 used
4.	Battery	-	-	No need for light for horn second hand used.
4a.	Spark Plugs	74 4	Pak	Set changed every four months.
5.	Indicators	42/- (Front) 1	Pak	
		68/- (Back) 1		-
6.	Electrical Wire Set	82/-	Foreign	Complete Set.
7.	Tyres & Tubes	400/- 1	China	3 used and runs for 8 to 10 months.
		225/- 1	Pak	
8.	Steering Rod used	850/-	Foreign	One Rod used.
9.	Brakes	1,650/-	Foreign	Complete Set.
10.	Clutch Assembly	1,100/-	"	Usually Clutch Plate used Rs. 60/-.
11.	Gear Box	1,425/-	"	For all pieces.
12.	Differential	620/-	Italy	Usually Rs. 250/- or Rs. 85/- used.
13.	a) Bearings(Wheel)	80+40 = 120 with cone.	Japan	Two bearings used in one wheel,6 used for the three wheels.
	b) Bearings(Engine)	135/-	Japan	6 Bearings used in Engine.
		250/-	Japan	
14.	Shock Absorbers	360/-	Foreign	One used.
15.	Carburettor	690/-	Foreign	" "
16.	Silencer	85/-	Pak	One used usually welding repairs.
		135/-	"	
17.	Hoses	20/-	Pak	-
18.	- Complete Engine overhauling.	1,650/-	-	Including labour charges Rs. 100/-
	- Half overhauling	1,000/-	-	Including labour charges Rs. 50/-
19.	- Painting complete respray auter with (inside and out-side) bodies repairs(denting) painting.	2,350/-	-	-
	- Outer Respray with denting.	1,450/-		

Contd.../-

Table 4..10(b)

Prices for Auto Parts from Dealers in Lahore

b) Taxicab

S.No.	Item	Rate (Rs.)	Origin	Remarks
1.	Alternator/Coil	105/- 110/- 85/-	Japan " China	-
2.	Generator	185/-	Pak	Recondition in Pakistan.
3.	Indicator	90/- 4 pieces 25/-	Pak	Complete Set
4.	Head Light	90/-	Japan	-
5.	Spark Plugs	25/- each	"	4 plugs changed every 4 mths.
6.	Battery	480/- 350/-	-	In winter the prices increase upto Rs. 450/-. In summer Rs. 350/-.
7.	Brake Shoe	250/- each 390/- " 80/- "	Japan " Pak	Datsun Suzuki Morris
8.	Clutch Plate	250/- 70/-	Japan Pak	Datsun Morris
9.	Bearings	22-60/-	France Japan Germany	Rs.35/- Bearing Japanies in common used.
10.	Shock Absorbers	400/- (Shock) each.	Japan	For all vehicles the rate is the same.
11.	Carburettor	800/- 250-350/-	Japan 2nd hand	Suzuki, Morris, Datsun.
12.	Gears	650/-	2nd hand	New set never used.
13.	Fuel Pump(Filter)	50/- 25/-	Japan Japan	Suzuki (Complete set not used) Datsun(Complete set not used)
14.	Silencer	350/-	Pak	New one is usually used. Driver repairs the 2nd hand.
15.	Radiator (Jally) Front Grille	350/-	japan	Usually complete set is not used.
16.	Complete Radiator set.	1,550/-	Japan	
17.	Hoses	10-15/- 15-20/- 20/-	Pak " "	For Morris " Datsun " Suzuki
18.	Fan Belt	15-20/- 15/- 22/- 15-20/-	Pak " Japan Pak	Morris Suzuki Datsun
19.	Mechanical overhaul	4,800/- 5,000/- 3,500/- 4,000/-		A-I overhaul B-Class overhaul (Labour costs 700-800/-)

contd.../-

Table 4.10 (b) (Contd..)

S.No.	Item	Rate (Rs.)	Origin	Remarks
20.	Respray	3,500/-		A-1 Paint (Datsun)
		2,500/-		A-1 Paint (Morris)
21.	Reconditioned Engine	3,400/-		
		4,200/-		Datsun
22.	Tyres	650/- General		Datsun new innertubes
		700/- Tyre		@ Rs.150/- included.
		500/- General		Depends upon condition
		380/- 2nd hand		of tyre.
				Summer prices for tyres higher by about Rs. 70/-

(2) Lubrication and routine servicing: The most common practice within the industry is for vehicles to receive a routine servicing and oil change at regular intervals of time, rather than as function of distance covered - this practice no doubt is in some measure due to the high incidence of defective odometers. Information on the cost of servicing and oils was obtained by asking how frequently (at what interval) these were carried out. Prices of lubrication were researched at several service stations; the cost of oil changes being calculated as a function of the volume of oil required by each type of vehicle. For rickshaws, the cost of two-stroke mixing oil was added to the cost of fuel. Thus the average annual costs have been calculated on the basis of the reported periodicity of servicing and oil changes, which have been factored to give annual rates to which have been applied appropriate market rates each vehicle type for service and oil costs. This cost for all owners came out to be Rs. 1,262/-.

(3) Fuel Costs: Although fuel costs are a major element in the cost of taxi operation, we were not able to carry out independent tests of fuel consumption in the typical driving environment of the study area, and instead have had to rely on the owners estimates of the average fuel consumption of his vehicle. Parameters used in calculating the annual fuel cost are given in Table 4.11 and derivation of annual fuel costs in Table 4.12.

Table 4.11
Parameters Used in the Derivation of Annual Fuel Cost

	Rickshaw			Taxi		
	Owner	Other-Ower	All-Owner	Owner	Other-owner	All Own
- Average Fuel consumption Km/Litre	13.50	11.50	12.50	11.40	7.40	9.4
- Days worked/annum.	336	336	336	324	324	324
- Average Passenger Trip Length (Kms).	9.35	7.28	8.32	7.80	5.40	6.60
- Average Distance Empty Per Trip Km.	2.68	2.68	2.68	1.96	1.96	1.96
- Average Distance covered/ trip (Kms).	12.5	9.5	11.0	9.60	7.44	8.52

Table 4.12
Derivation of Annual Fuel Costs

	Rickshaw			Taxi		
	Owner	Other-Owner	All-Owner	Owner	Other-Owner	All-Owner
- Daily Hours worked/ day.	11.40	9.32	10.36	13.38	11.34	12.36
- Daily No. of Trips/ Vehicle.	16.50	14.30	15.40	11.70	9.62	10.66
- Daily Kms Travelled Vehicle (Kms).	169.4	169.4	169.4	90.82	90.82	90.82
- Daily Revenue Kms/ Vehicle.	128.12	128.12	128.12	70.35	70.35	70.35
- Annual Revenue Kms/ Vehicle (Kms).	43048.3	43048.3	43048.3	22795.3	22795.3	22795.3
- Total Annual Kms/ Vehicle.	56824.0	56824.0	56824.0	29425.7	29425.7	29425.7
- Annual Fuel Consumption/ Vehicle (Litre)	4552.80	4544.96	4548.88	3129.84	3130.36	3130.10
- Fuel Cost/Vehicle @ 6.85 per litre.	31186	31133	31159.50	21439	21443	21441

Fuel consumption varies as a function of the average speed of the vehicle, and since driving conditions and average speeds in the study area vary quite widely, there will be wide variations in fuel consumption, even for the same vehicle type. Average speeds in the bazar area of Lahore are low, due to the high density of non-motorized traffic and of pedestrians and the many obstructions encountered.

The procedure adopted for the calculation of the annual cost of fuel was to:

a. calculate the average fuel consumption (kms/litre) for all vehicles of the same type

b. determine the number of days worked per annum

c. determine the daily kms operated

d. calculate the annual consumption in litres .... $b(\frac{c}{a})$

e. multiply the resultant by the cost per litre.

The most complex part of the calculation involved the estimation of the daily kms performed by each vehicle. This was arrived at from data obtained during the first survey, where drivers were asked where they had dropped their last fare, and how long they had been waiting between dropping the last fare and picking up the next. By calculating the average distance travelled empty, and the average hired trip distance we found the average trip cycle time (the time elapsed between the start of the subsequent journey). Having asked the number of hours worked per day, this enabled us to calculate the average number of journies per day.

We need to emphasise the rather precarious basis on which these estimates have been derived i.e. on estimates of fuel consumption provided by the drivers and owners. Individual estimates vary widely even for the same type of vehicle, and the overall average figures used in our calculations should be considered as a guide only. This particularly unfortunate since fuel costs obviously form a considerable proportion of the total operating costs. Deviations from the average fuel consumption for individual vehicles could result in costs as much as plus or minus 30% of the figures quoted here.

Annual variable costs per vehicle are given in table 4.13. Operating cost per km and total annual operating costs derived from the survey data is given in Tables 4.14 and 4.15.

Table 4.16 shows estimated average annual revenue per vehicle and table 4.17 indicates the annual vehicle revenue minus total vehicle costs. Table 4.18 gives us the annual net revenue surplus after deducting the driver wages of owner-driver category. We divided the net surplus by 12 to get the monthly income of the owner-driver (Table 4.19). This income does not take into account the depreciation or the project on the purchase price of the vehicle i.e. the profit on the investment if the owner-driver had not bought the taxi and instead had invested the money somewhere else, it is not a realistic approach. So this aspect has been taken into account in Table 4.20. This shows that the average monthly income of all owners is meagre.

Table 4.13

ANNUAL VARIABLE COSTS PER VEHICLE

	Rickshaw	Taxi	Remarks
A) OWNER DRIVER			
Maintenance and Repairs	4,539	4,896	Table 4.9(Pp 122-123)
Lubrication and Servicing	1,112	1,504	(From data form)
Fuel	31,186	21,439	Table 4.11(P-132)
TOTAL:	36,837	27,839	
B) OTHER OWNERS			
Maintenance and Repairs	4,260	6,448	Table 4.9(Pp.122-123)
Lubrication and Servicing	945	1,488	(From data form)
Fuel	31,133	21,443	Table 4.11(P-132)
TOTAL:	36,338	29,379	
C) ALL OWNER			
Maintenance and Repairs	4,399.50	5,672	-
Lubrication and Servicing	1,028.50	1,496	-
Fuel	31,159.50	21,441	-
TOTAL:	36,587.50	28,609	

Table 4.14

Vehicle Operating Cost Per Km

	(Rs.Per Km) Rickshaw	Taxi
A) OWNER DRIVER		
Outright Purchase	0.72	1.19
Instalment	0.74	1.22
B) OTHER OWNERS		
Outright Purchase	0.94	1.62
Instalment	0.95	

Table 4. 15

TOTAL ANNUAL OPERATING COSTS

		RICKSHAW	TAXI	REMARKS
A) OWNER DRIVERS				
FIXED COSTS	Outright Purchase	1,735	2,250	Table 4.6 (P-111).
	Instalments	2,431	3,436	From data.
SEMI FIXED COSTS		2,909	4,872	Table 4.8 (P-120)
VARIABLE COSTS		36,837	27,839	Table 4.13 (P-135)
TOTAL	Outright Purchase	41,481	35,261	
	Instalments	42,177	36,147	
B) OTHER OWNERS				
FIXED COSTS	Outright Purchase	2,250	3,325	Table 4.6(P-111)
	Intalments	2,750	4,045	
SEMI FIXED COSTS		14,994	15,228	Table 4.8 (P-120)
VARIABLE COSTS		36,338	29,379	Table 4.13 (P-135)
TOTAL	Outright Purchase	53,582	47,932	
	Instalments	54,082	48,652	
C) ALL OWNER	Outright Purchase	47,531.50	41,596.50	
	Instalments	48,129.50	42,399.50	

Table 4.16

ESTIMATED AVERAGE ANNUAL REVENUE PER VEHICLE

	Rickshaw	Taxi
Owner Drivers	67,155.34	67,474.10
Other Owner	64,778.20	61,060.10
All Owners	65,966.77	64,267.10

e.g: Daily travel(kms)xFare/Km x No.of days = 128.12 x 1.56 x 336
= 67,155.34

Table 4.17

ANNUAL VEHICLE REVENUE MINUS VEHICLE COSTS

		Rickshaw	Taxi
OWNER DRIVER	Outright Purchase	25,674.34	32,213.10
	Instalments	24,978.34	31,327.10
OTHER OWNER	Outright Purchase	11,196.20	13,128.10
	Instalments	10,696.20	12,408.10
ALL OWNER	Outright Purchase	18,435.27	22,670.60
	Instalments	17,837.27	21,867.60

e.g: Estimated Average Annual Revenue/Vehicle - Total Annual Operating Costs. (Table 4.16 - Table 4.15)
= 67,155.34 - 41,481 = 25,674.34

Table 4.18

OWNER DRIVERS - ANNUAL NET SURPLUS AFTER DEDUCTION OF DRIVERS WAGE (Rupees)

	Rickshaw	Taxi
Outright Purchase	13,914.34	20,453.10
Instalments	13,218.34	19,567.10

Note: Annual Driver Wages Rs. 11,760 (from data)

e.g: From Page 137, Table 4.16
Annual Vehicle revenue minus vehicle cost = 25,674.34
= 11,760.00
13,914.34

Table 4.19

OWNER DRIVERS — MONTHLY EARNINGS
(Including his wages but excluding depreciation of purchase price).

	Rikshaw	Taxi	Remarks
Outright Purchase	2,139.52	2,684.42	e.g: from Table 4.17 Page 137
Instalments	2,081.52	2,610.59	Outright purchase = 25,674.34/12 (Months) = 2,139.52

Other owners - Monthly Earnings

	Rickshaw	Taxi
Outright purchase	933.0	1094.0
Instalments	891.4	1034.0

Table 4.20

AVERAGE INCOME PER YEAR - TAXI OPERATION (Outright purchase)

	Owner Driver		Other Owner	
	Rickshaw	Taxi	Rickshaw	Taxi
- Av.purchase Price*	56,504.00	30,491.00	56,504.00	30,491.00
- Investment Return (@ 15% for 1 year)	9,097.80	5,248.20	9,097.80	5,248.20
- Fixed Cost	1,735	2,550	2,250	3,325
- Semi-Fixed Cost**	2,909	4,872	14,994	15,228
- Variable Cost	36,837	27,839	36,338	29,379
Total Costs	50,578.80	40,509.20	62,679.80	53,180.20
Total Revenue	67,155.34	67,474.10	64,778.20	61,060.10
Revenue Surplus (Income)	16,576.54	26,964.90	20,984	7,879.90

Income All Owners : Rickshaws: (16,576.54 + 2,084.40)/2 = 9,337.47 per annum.

Taxicab: (26,964.90 + 7,879.90)/2 = 17,422.40 per annum.

If profit @ 15% is not included: Rickshaw income = 18,435.27 per annum

Taxicab income = 26,520.20 per annum

* Purchase price includes the first-time renovation cost.

** Semi-fixed costs for owner-drivers do not include the wages of the driver while these are included in costs for other owners. i.e. other owner pays monthly wages to a driver.

Chapter - 5

PASSENGERS

5.1 Introduction

In this chapter we present the results of the interview survey carried out with the taxi passengers. The purpose of this section of the study was to find out the use of taxis, the categories of passengers using the facility and their attitude towards the level of service.

From the data obtained it has been possible to build up a picture of essential parameters such as the average trip length, the distribution of journey lengths, fares paid, how often people use taxis an the origin-destination pattern of the journies being made.

5.2 The number and distribution of taxi journies

An analysis of the variation in the number of journies over the day is given in Table 5.1 . Here we see a distribution typical for trip making in urban areas, with demand building up rapidly in the morning, remaining fairly constant during much of the working day but with some peaking and then fading away more gradually into the late evening. In Lahore the highest demand, with 50% of daily journies, occurs between 10:00 and 13:00 pm,with another peak occuring between 14:00 and 16:00 pm.

Table 5.1

DISTRIBUTION OF RICKSHAW JOURNIES BY TIME OF DAY

Time	Journies
08 - 09	4.8
09 - 10	14.0
10 - 11	15.9
11 - 12	17.4
12 - 13	16.7
13 - 14	5.2
14 - 15	9.5
15 - 16	10.5
16 - 17	5.3
17 - 18	0.4
18 - 19	-
19 - 20	0.2

5.3 Passenger Type

Whilst it would have been interesting and perhaps illuminating to have undertaken a comprehensive investigation of the socio-economic characteristics of taxi users, practical considerations limited the nature and extent of the information which could be sought during this survey. The principal constraint was that of the time taken to conduct the interview with the passengers and for this reason it was considered inadvisable even to attempt to obtain socio-economic indicators and consequently the scope of the investigation of passenger attributes was perforce of a very limited nature.

Two question were asked, designed to give some knowledge as to the type of person using taxis and the extent to which they did so. Both questions had to be formulated in a manner which was easily comprehensible for the respondent and structured so as to provide unambiguous answers. The first, asked the passenger to signify to which of five categories he belonged. These were defined as:

- Permanent residents of the study area
- Temporary residents
- Visitors on business

- Visitors for recreation

  This category include tourists who are traditionally regarded as being highly dependent on taxis.

- Visitors for other purposes

  The second question was designed to establish how frequently the respondents used taxi services. Here, four categories were employed:

  - At least once a day
  - At least once a week, but not necessarily every day.
  - More than once in the last month, but not every week.
  - Infrequent use - defined as less than once a month over the last six months.

The responses to these questions (Figure 5.1 and 5.2) show that of the 1086 persons interviewed, 702 were permanent residents, 197 temporary residents, whilst the remaining 187 of taxi trips were accounted for by visitors. It is pertinent to point out that only 40 taxi trips were made by tourists. Also, somewhat surprisingly it was revealed that nearly one quarter (1086) 232 of passengers interviewed used taxis at least once a day, with a further 410 reporting use at least once a week. The results are summarized in Table 5.2.

Both the high proportion of residents' use, and the high frequency of use overall suggest that the taxi service provides an essential part of the regular public transprot service in the urban area rather than functioning more as a premium quality adjunct to it. This hypothesis is strengthened by other findings referred to in this study.

Figure 5.1
HISTOGRAM ANALYSIS (PASSENGER TYPE)

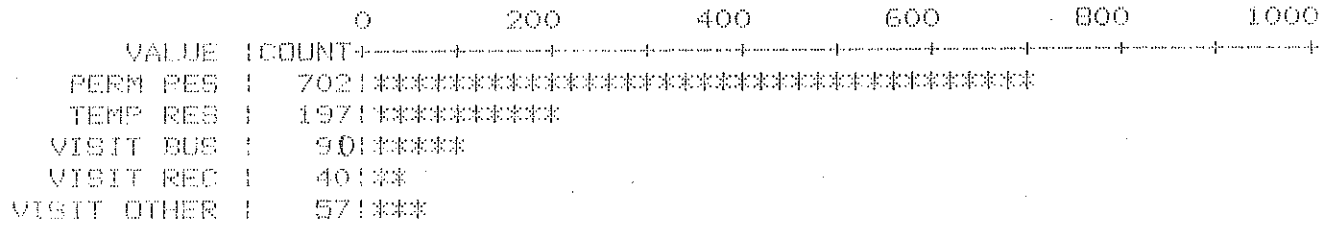


Figure 5.2
HISTOGRAM ANALYSIS (FREQUENCY OF USE)

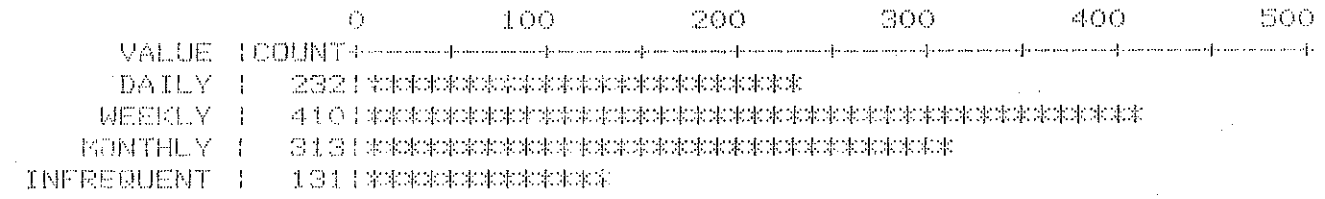


Table 5.2
Frequency of Taxi Use

a. Absolute Values

Frequency of Use	No. of Passengers
Daily	232
Weekly	410
Monthly	313
Infrequent	131
Total:	1086

B. Column Percentage

Frequency of Use	Percentage of Passengers
Daily	21.42
Weekly	37.69
Monthly	28.80
Infrequent	12.08

Table 5.3 records the categorization 1086 passengers interviewed. Cross-tabulating frequency of use with passenger type (Table 5.4) shows that for the study area as a whole Permanent Residents are the most habitual taxi users; 64.64% of those using taxis do so at least once a week, compaired with 18.13% for temporary residents and 17.23% for all others.

5.4 Vehicle Occupancy:

At the same time as the interviews were being conducted the interviewer noted how many passengers were travelling in each taxi. Very young children being carried by an adult were not counted as separate passengers. Table 5.5 shows the distribution of vehicle occupancies observed.

5.5 Trip Length:

One important parameter of system performance is the distance over which journies are being made. This is essential for computing industry costs, establishing fare rates as well as providing a description of the transport service or output being performed by the industry. At a more technical level, trip length distributions are used by transport planners for modelling travel behaviour and forecasting future travel demand.

In this study, data on journey length has had to be derived from other data collected in the survey, since we could not expect a passenger to know the exact distance of the journey he was making, nor could we use the vehicle odometers, since the majority were not in a working condition.

The procedure adopted was to divide the study area into 191 zones and having asked the passenger for the destination of this current journey the origins and destinations were subsequently coded

Table 5.3
Passenger Type by Frequency of Use

a. Absolute Value

Passenger Type	No. of Passengers
Permanent Resident	702
Temporary Resident	197
Visit Bus	90
Visit Rec	40
Visit other	57
Total:	1,086

b. Column Percentage

Passenger Type	Percentage of Passengers
Permanent Resident	64.64
Temporary Resident	18.13
Visit Bus	8.28
Visit REC	3.69
Visit Others	5.26

Table 5.4

Passenger Type By Frequency of Use (Cross Tabulation)

a) ABSOLUTE VALUE

	Daily	Weekly	Monthly	Infrequent	Total
Perm. Residence	200	258	186	58	702
Temp. Residence	14	124	47	12	197
Visit Business	9	18	42	21	90
Visit Recreation	6	5	16	13	40
Visit Other	3	5	22	27	57
TOTAL:	232	410	313	137	1086

b) COLUMN %

	Daily	Weekly	Monthly	Infrequent	Total
Perm. Residence	86.2	62.8	59.3	44.3	64.5
Temp. Residence	6.0	30.4	15.0	9.2	18.2
Visit Business	3.9	4.4	13.5	16.0	8.3
Visit Recreation	2.6	1.2	5.1	9.9	3.7
Visit Other	1.3	1.2	7.1	20.6	5.3
TOTAL:	232	410	313	131	1086

Table 5.5

Distribution of Vehicle Occupancies

No. of Passengers	
1	36.6
2	51.0
3	9.7
4	1.8
> 5	0.8

with the corresponding zone number. A table of interzonal distances (skim tree) was prepared using shortest distance minimum paths over the highway network between each taxi stand and the centre (zone centroid) of each destination zone.

The highway network, showing link lengths from which the interzonal distances were calculated is shown in Figure 5.3 The distribution of journey lengths (in Kms) determined for all taxi journies is shown in Figure 5.4. The form of the distribution corresponds well with that generally found for urban travel: an assymetric distribution skewed in favour of the shorter distances. The mean trip length of 7.46 kms is comparatively short given the extent of the study area.

The number of trips in each category of trip length shows that over 79% of all journies are over distances of under 5.4 kms, and that over 97% of journies are less than 9.4 kms in length.

5.6 Fares

One of the important factors which determines the use made of any transport system is the fare structure and the level of fares charged in relation to the disposable income of the potential users of the system. Fare revenue is also obviously of vital concern to the operator and to the regulatory agency whose responsibility it is to set fare levels.

Figure 5.3

HISTOGRAM ANALYSIS

(TRIP LENGTH)

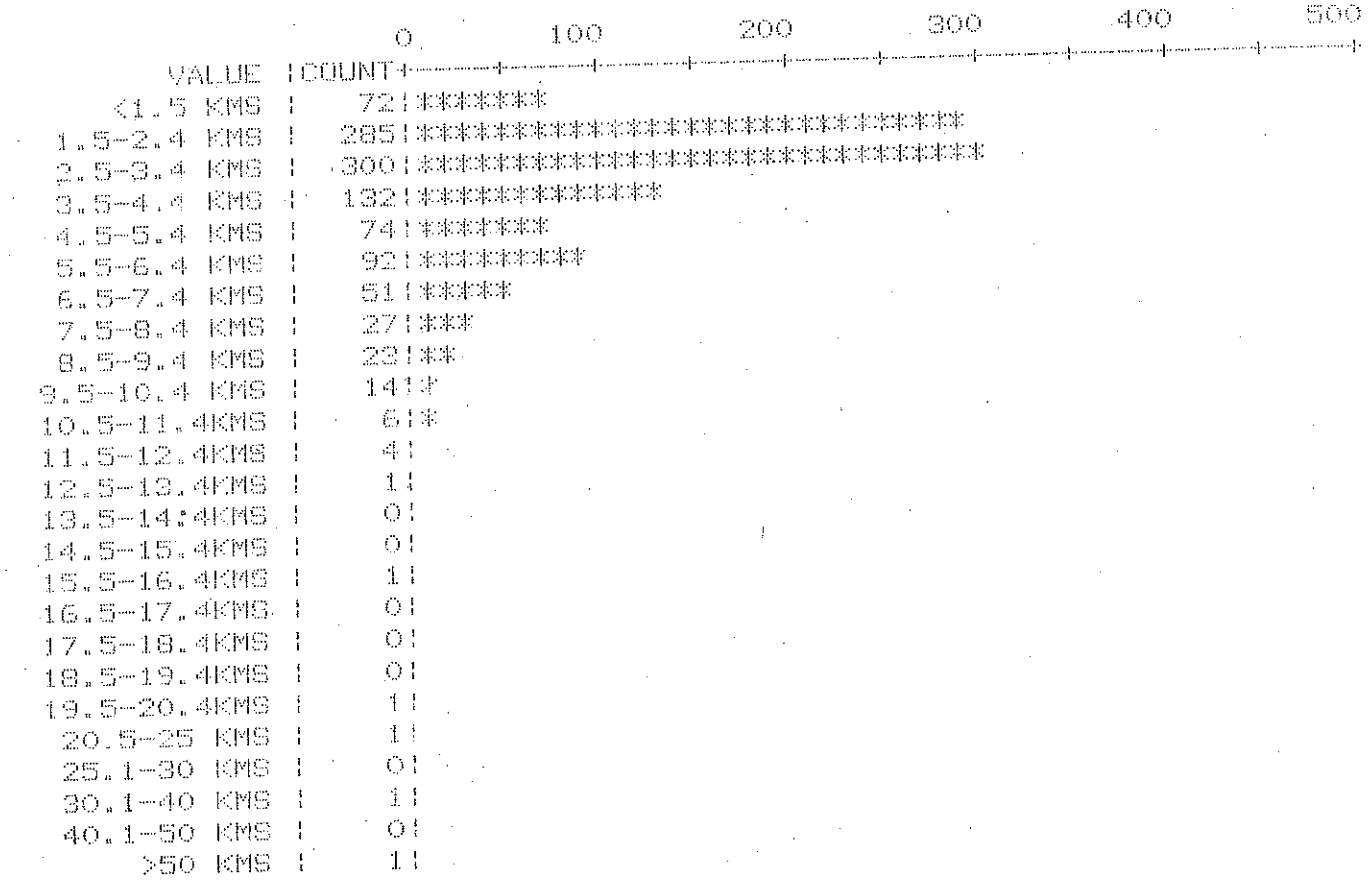
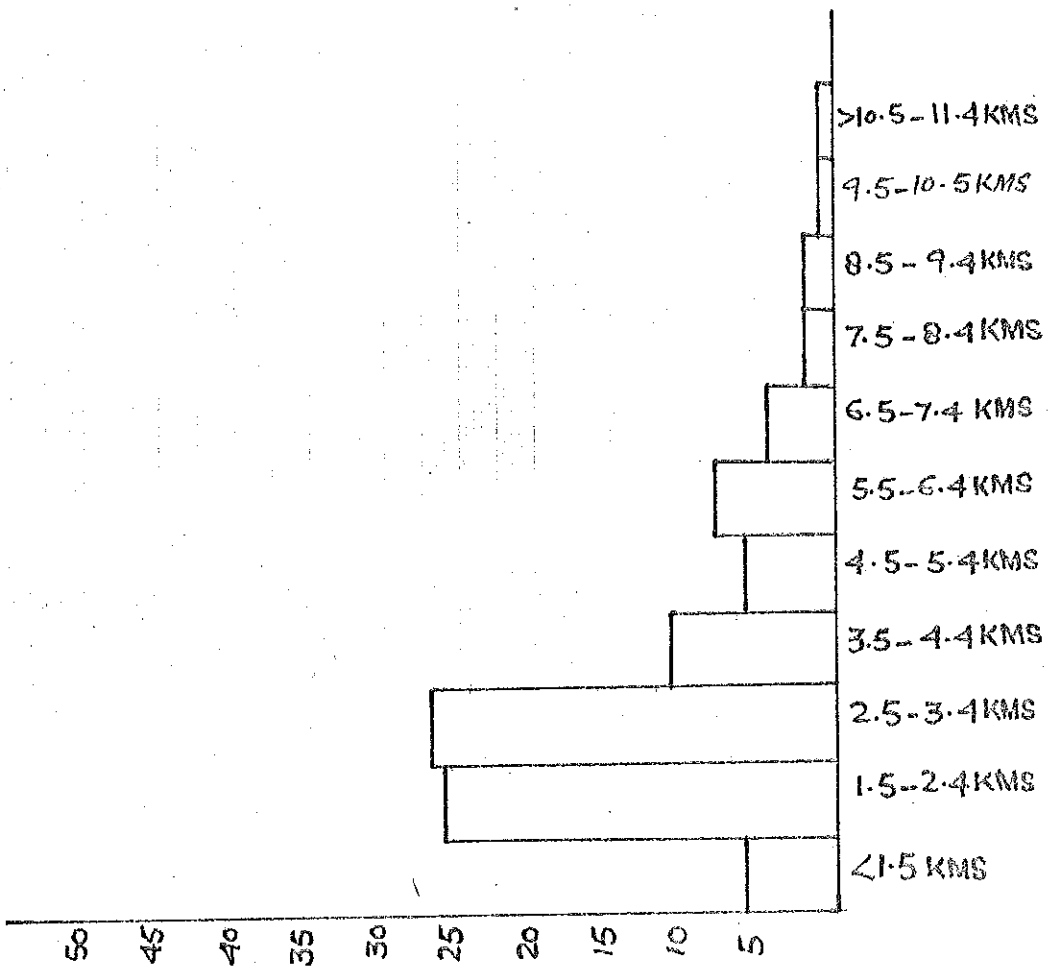


FIGURE 5.4:

DISTRIBUTION OF JOURNEY LENGTHS



At the time that the passenger survey was conducted (1987), the authorized fare had remained unchanged for several years at Rs. 2.25 per km for rickshaws and Rs. 3/- per km for taxicabs. However, preliminary investigations revealed that the predominant practice was for the fare to be bargained between passenger and driver before the taxi was hired. Taxi meters, when fitted, were by and large either distrusted by the passenger or simply did not work.

Thus in order to determine real fare rates (those actually paid rather than those authorized by the Regional Transport Authority) it was necessary to ask the passenger what fare he had agreed to pay the driver. In the few cases where the passenger had not previously agreed a fare, then the driver was asked what fare he would charge. if the response to this was that the fare would be charged accordingly to the meter, then the appropriate fare for the journey was subsequently calculated using the authorized rates over the distance for that journey.

The first result of note is that only 22.55% (Table 5.6) of passengers made journeys using the taxi meter and the meter was used on only 245 of the vehicles plying for hire.

Table 5.6

Use of Taxi Meter

Vehicle Using Meter	=	245
No. of Vehicle	=	1,086

Table 5.7
Fares Paid for Journies of the Average Trip Length

Average Trip Length (Km)	Average Fare (Rs.)	Average Fare/ Km, Rs./Km	Av. Fare Per Passenger/Km, Rs/Km
7.46	11.68	1.56	0.78

Overall, the average fare paid for the average journey was found to be Rs. 11.68. The data in Table 5.7 above illustrate fares paid for journies made over the average journey length. However, a certain amount of caution must be exercised in extrapolating these findsings. Two factors serve to complicate the analysis. The first is that there is in effect a minimum fare, which is charged irrespective of journey length. This is generally Rs. 4.00 for rickshaws and Rs. 6/- for taxicab. The second factor is that, as has already been observed, the distribution of journey lengths is highly skewed in favour of shorter journies. If we analyse the average fare paid for each category of journey distance a rather different picture emerges (Table 5.8).

For very short journies the fare per km is very much higher than that for the longer journies, and indeed for the shortest journies actual fare rates are over two and half times the authorized rate.

5.7 Level of Service and Passenger Attitudes

To some extent the demand for taxi services is conditioned by certain attributes of the supply. The more convenient and comfortable the service, the more people will use it. In particular, it is the ability of the taxi to provide a convenient service where journies can be accomplished in a short time that gives the taxi its competitive edge over convential stage-carriageway services. Important in this respect is the role of access time

Table 5.8

Average Fares by Trip Length

Journey Length Kms	Average Fare	Average Fare Km
> 1.5	7.4	4.93
1.5 - 2.4	6.7	3.43
2.5 - 3.4	8.5	2.88
3.5 - 4.4	4.4	1.11
4.5 - 5.4	11.4	2.30
5.5 - 6.4	14.0	2.35
6.5 - 7.4	18.4	2.64
7.5 - 8.4	20.71	2.60
8.5 - 9.4	16.75	1.87
9.5 -10.4	23.62	2.37
10.5 -11.4	51.0	4.65
11.5 -12.4	58.0	4.85
12.5 -13.4	48.0	3.70
13.5 -14.4	28.0	2.00
14.5 -15.4	55.5	3.71
15.5 -16.4		
16.5 -17.4		
17.5 -18.4		
18.5 -19.4		

i.e. the time spent walking to the nearest point where there is a reasonable expectation of encountering a taxi and the time spend waiting for a unengaged taxi to appear.

The shorter these access times are, relative to those of other public transport modes, the greater is the competitive advantage of the taxi. Access time, in its turn is determined by the number of vehicles in operation in relation to the size of the market, the proportion of time for which each vehicle is available for hire, and the geographical distribution of the unengaged vehicles.

In this respect it is relevant to note that in western countries the increasing adoption of despatched services using two-way radio, and the near universal availability of the telephone means that access time can be reduced to near zero with, in the majority of cases, a taxi waiting at the door at the time that it is required.

5.7.1 Physical access to taxi services:

We have already commented on the fact that there are a large number of unofficial taxi stands spread throughout the urban area. Over the years the taxi operators have identified where the concentrations of passenger demand are to be found, and have responded to the requirements of the market by themselves establishing stands in those locations.

This practice has benefitted both operator and user alike. Operating from a stand rather than cruising reduces the

operator's costs by reducing the dead or empty kilometres involved. Provided that the stands are conveniently located and the supply of cabs matches the demand, the intending passenger is benefited by the elimination of the random waiting time inherent when cabs are cruising. There is also a further benefit to the public at large, in that the greater the proportion of empty cabs waiting at stands, the less there are cruising and the less the taxi contributes to problems of traffic congestion.

One major deficiency however is the virtual absence of any facilities enabling contact to be made with a rickshaw operator by telephone. It is understood that current regulations covering radio communications preclude the possibility of fitting mobile two way radio communication systems in civilian vehicles.

In order to assess the distances actually covered on foot by taxi users, passengers were asked how far they had to walk to get to the taxi they were sitting in at the time of the interview. Figure 5.5 shows that, overall 93% of all taxi users had to walk less than 100 meters in order to find a taxi and only 7% had to walk more than 100 meters.

Table 5.9 shows the percentage distribution of distance covered in walking to each of the taxi stands in Lahore. Bearing

FIGURE 5.5

WALKING DISTANCE

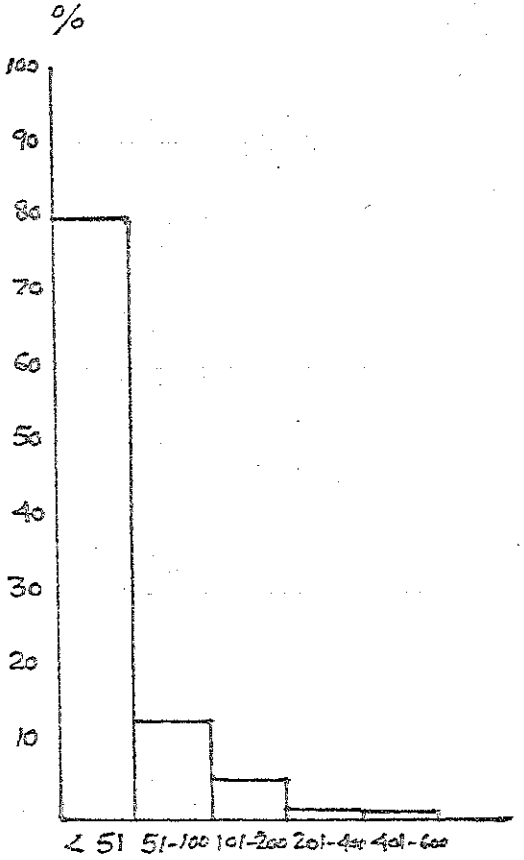


Table 5.9
Distribution of Distances Walked to EAch Taxi Stand

Walk Distance	STATION NO. 8																
	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16
< 50 M	-	-	-	-	-	-	-	-	-	81.3	100.0	78.9	100.0	62.5	100.0	90.9
51 - 100 M	-	-	-	-	-	-	-	-	-	18.9	-	13.2	-	6.3	-	-
101 - 200 M	-	-	-	-	-	-	-	-	-	-	-	7.9	-	12.5	-	9.1
201 - 400 M	-	-	-	-	-	-	-	-	-	-	-	-	-	12.5	-	-
401 - 600 M	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3	-	-
601 - 800 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
801 -1000 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1000 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	32	14	38	26	16	7	11

Contd.../-

Table 5.9 (Contd.)

Distribution of Distances Walked to EAch Taxi Stand

Walk Distance	STATION NO. 8															
	L17	L18	L19	L20	L21	L22	L23	L24	L25	L26	L27	L28	L29	L30	L31	L32
< 50 M	89.5	75.9	100.0	82.4	80.0	100.0	100.0	100.0	100.0	-	70.6	98.0	85.2	78.6	94.3	-
51 - 100 M	10.5	3.4	-	17.6	13.3	-	-	-	-	-	5.9	2.0	7.4	21.4	-	-
101 - 200 M	-	17.2	-	-	6.7	-	-	-	-	-	23.5	-	7.4	-	-	-
201 - 400 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
401 - 600 M	-	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
601 - 800 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
801 -1000 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<1000 M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	19	29	24	17	15	14	11	26	25	0	34	51	27	28	35	0

Contd.../-

Table 5.9 (Contd.)

Distribution of Distances Walked to EAch Taxi Stand

Walk Distance	STATION NO. 8									
	L33	L34	L35	L36	L37	L38	L39	L40	L41	L42
< 50 M	-	-	-	-	75.0	75.0	-	-	-	-
51 - 100 M	-	-	-	-	25.0	10.0	-	-	-	-
101 - 200 M	-	-	-	-	-	5.0	-	-	-	-
201 - 400 M	-	-	-	-	-	10.0	-	-	-	-
401 - 600 M	-	-	-	-	-	-	-	-	-	-
601 - 800 M	-	-	-	-	-	-	-	-	-	-
801 -1000 M	-	-	-	-	-	-	-	-	-	-
<1000 M	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	0	0	4	20	0	0	0	0

One good indication of level-of-service is to check for any variation in the availability of taxis over the day. If at times of peak demand, demand should begin to outstrip supply we would expect both waiting times and walking times to increase.

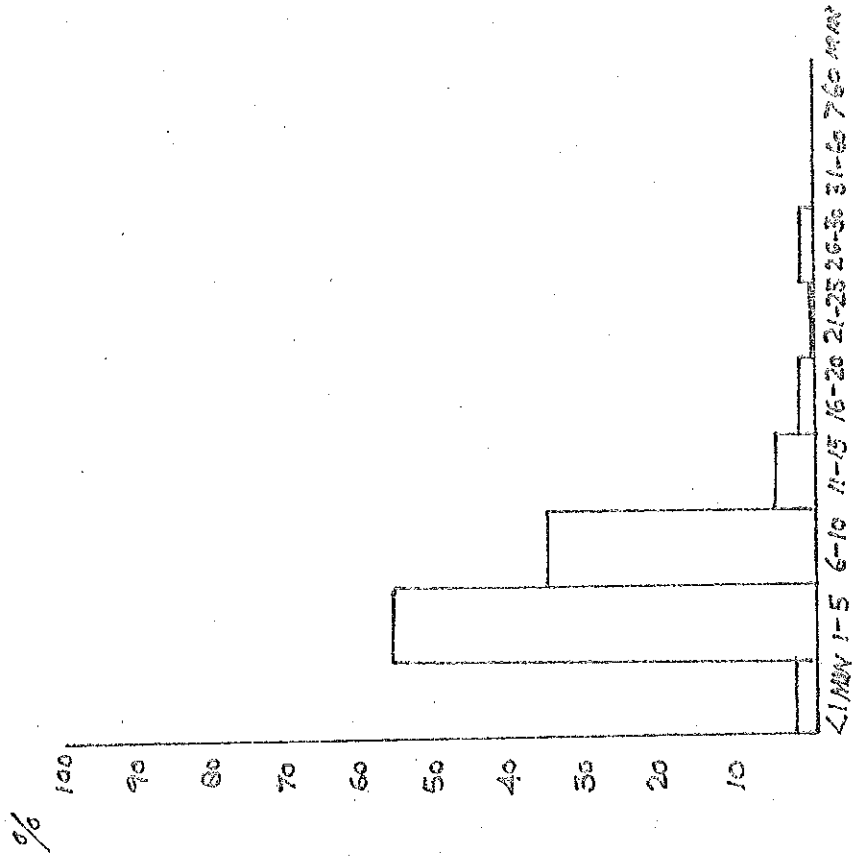
5.7.2 Waiting Time:

Paralleling the quality of service offered to the user in terms of physical access, we also find an extremely high level-of-service in terms of passenger time spent waiting at the taxi stand. Of over 1086 passengers interviewed only 58% reported that they had to wait within 5 minutes for a rickshaw and over 3% of all passengers were able to engage a taxi within one minutes of arriving at the nearest taxi stand (Figure 5.6).

The mean waiting time reported is computed at just 6.05 minutes - which indicates that in all but a few exceptional cases, there must always have been be at least one taxi at the stand when an intending passenger arrived.

FIGURE 5.6:

PASSENGER WAITING TIME



An analysis of how availability of taxis varied over the day (Table 5.10) reveals consistently short waiting times (upto 10 minutes) at all times for majority of passenger. For most of the day the number of passengers waiting more than one minutes rarely exceeded 97% of the total.

Hence, both from the point of view of walking distance to the nearest taxi stand and waiting time, the service would seem to be particularly good and it would be difficult to improve on the current level-of-service except by introducing innovations in the organization of the industry such as the use of modern communication systems.

5.7.3 Attitude to fares:

One of the objectives of this study is to examine the possibility of making changes in the system, we felt it important to guage the users attitudes to the existing level of service and in particular to fare levels and vehicle quality.

Passengers were asked for their opinion on these two attributes by way of questions constructed using a five point semantic scale. In the case of the question on fare levels the respondent was asked to indicate which of five categories most closely corresponded with his opinion. The options given were:

- Very Expensive
- Quite Expensive
- Reasonable
- Quite Cheap
- Very Cheap

Table 5.10

DISTRIBUTION OF PASSENGERS WAITING TIME BY TIME OF DAY

Passengers Wait Time		06-07	07-08	08-09	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24
< 1	Min	-	-	-	4.0	9.7	-	-	-	-	5.6	-	-	-	-	-	-	-	-
1 - 5	"	-	-	88.9	48.0	48.4	53.6	58.3	50.0	81.8	27.8	66.7	-	-	-	-	-	-	-
6 - 10	"	-	-	11.1	40.0	25.8	28.6	33.3	50.0	13.6	38.9	33.3	100.0	-	-	-	-	-	-
11 - 15	"	-	-	-	4.0	6.5	14.3	-	-	4.5	11.1	-	-	-	-	-	-	-	-
16 - 20	"	-	-	-	-	6.5	3.6	8.3	-	-	5.6	-	-	-	-	-	-	-	-
21 - 25	"	-	-	-	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-
26 - 30	"	-	-	-	-	3.2	-	-	-	-	5.6	-	-	-	-	-	-	-	-
31 - 60	"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
> 60	"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		-	-	9	25	31	28	24	12	22	18	6	1	0	0	0	0	0	0

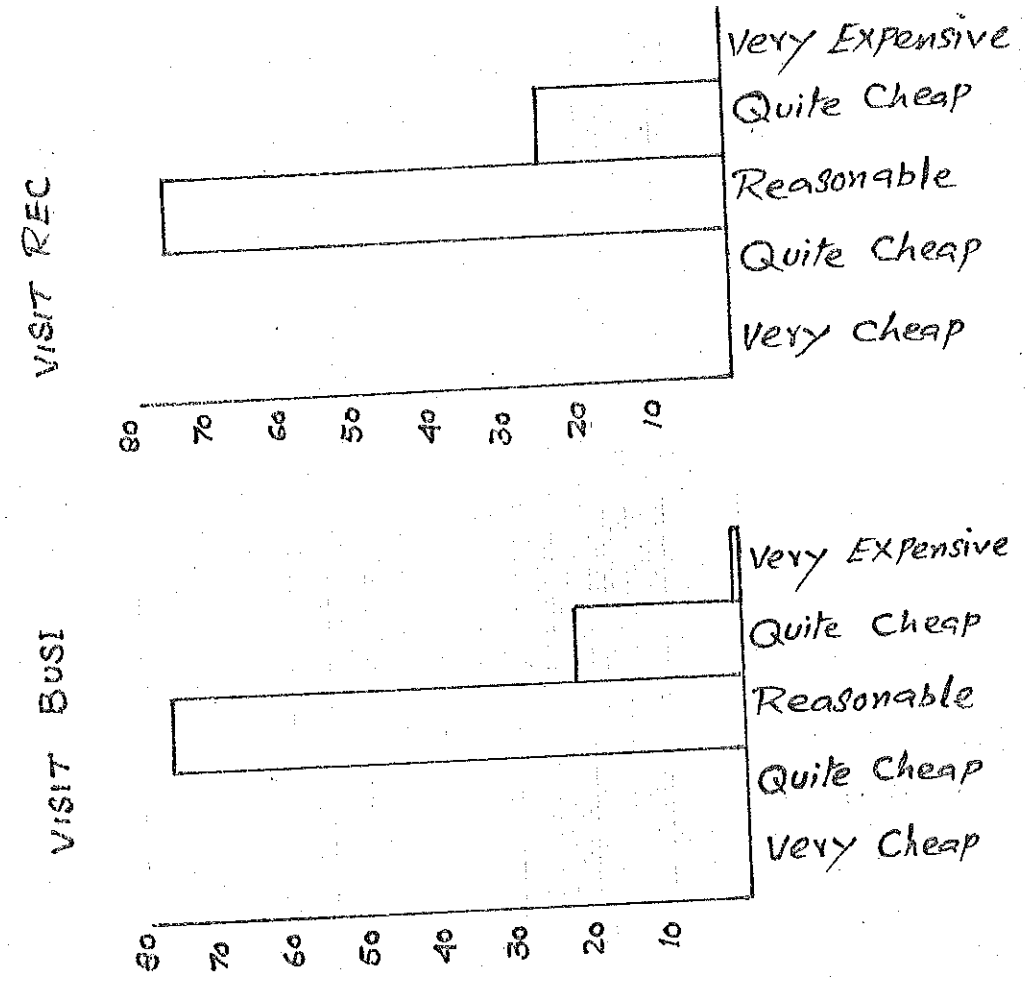
Figure 5.7 shows the attitude expressed by passengers in rickshaws and taxicabs categorised by persons type. Interestingly, it is the tourist who expresses least satisfaction with the level of rickshaw fares more than 77.7% indicating that fares are reasonable but otherwise the data shows little variation from the aggregate findings reported earlier.

5.7.4 Attitudes to vehicle quality:

An important observation to be made is concerned with the passenger's attitude themselves. We should expect a great deal of variability in response, according to differences in the passenger's past experience and personal standards. For example, someone who rarely travels in a taxi, who does not have his own car, whose sole experience of travelling in a motor car is obtained from the average taxi will assume that that vehicle is the norm. On the other hand, expectations should be far higher from someone who has his own car, or who has travelled in Europe or North America, where taxi standards tend to be much higher.

Ideally in an in depth attitudinal study we would attempt to reduce some of this variability by adopting the strategy of market segmentation, but due to the data collection constraints of this study, we have insufficient socio-economic data to do this and can at best hope to give but a general indication of opinions.

Figure 5.7
Opinion on Fare By Passenger Type



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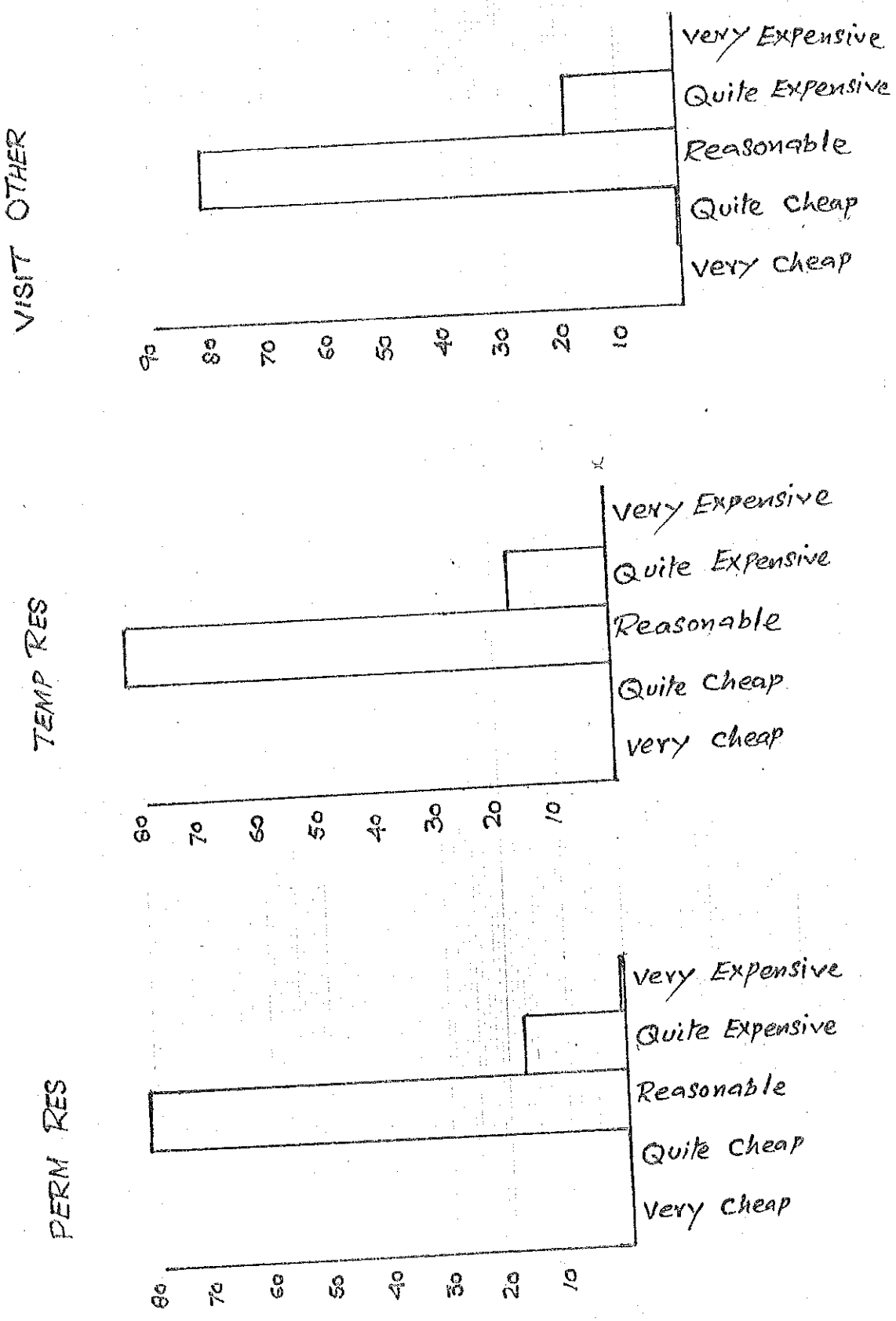


Figure 5.7 (Contd.)

Opinion on Fare By Passenger Type

As with the question on fares, a five point semantic scale was used to ask for opinions on vehicle quality. The categories defined were:

- Very good
- Quite good
- Satisfactory
- Unsatisfactory
- Very unsatisfactory.

Figure 5.8 shows a small but consistent trend; 72% of daily users are satisfied, more than 83% of weekly & monthly users, and 88% of infrequent users express some measure of satisfaction with vehicle quality.

Analysing responses by passenger type (Figure 5.9) shows that recreational visitors are less satisfied (82%) whilst other temporary visitors are most satisfied (82%).

5.7.5 Mode Preferences:

As a corollary to the questions on opinions on fares and vehicle quality, and because preliminary investigations in designing the survey had revealed that in some cases passengers claimed that they were using taxis because there was no reasonable alternative open to them, two questions were included designed to identify user's preferences in this respect. This first question asked if the passenger would have prefered to use some form of public transport instead of the taxi for the journey he was about

FIGURE 5.8:
OPENION ON VEHICLE BY FREQUENCY OF USE.

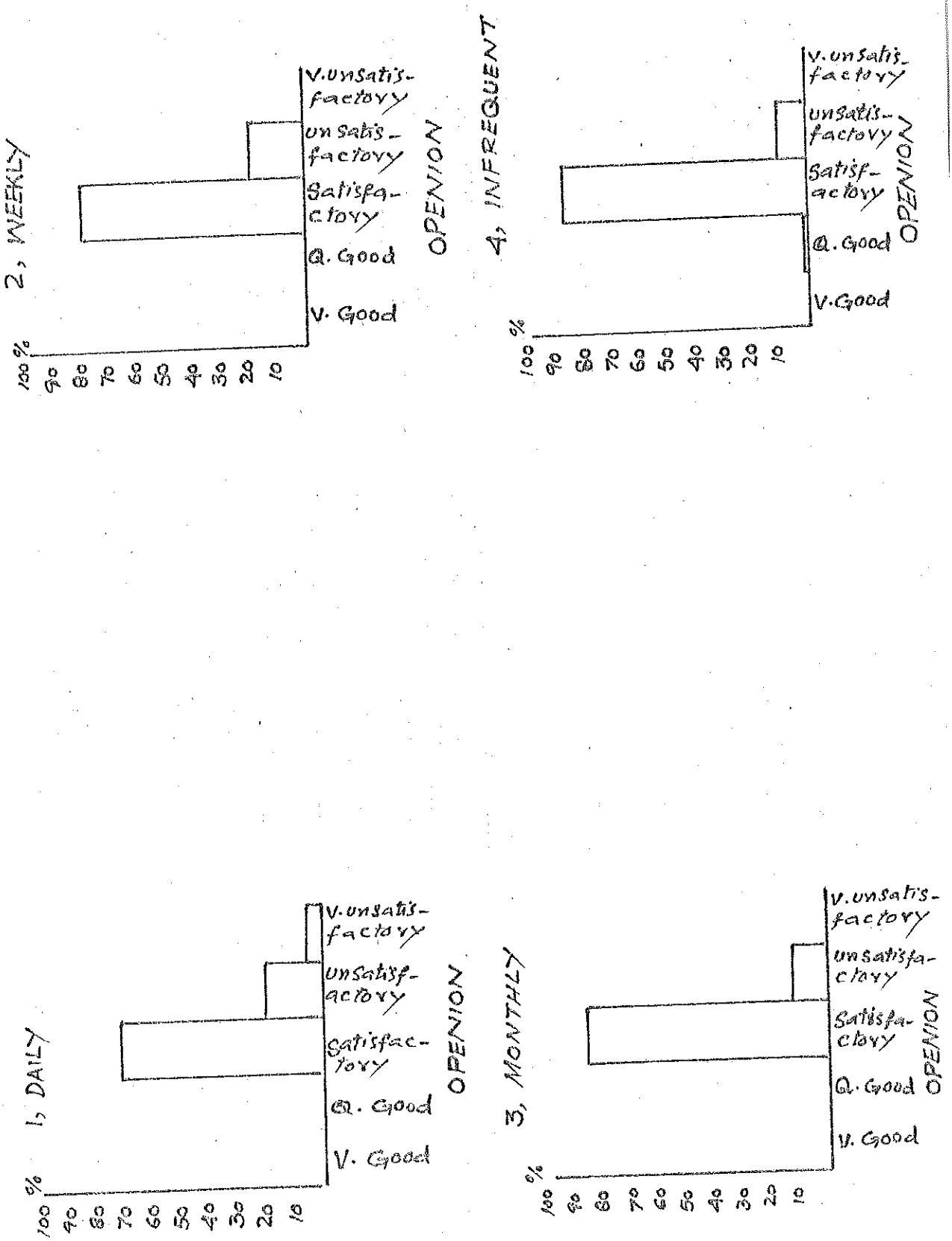
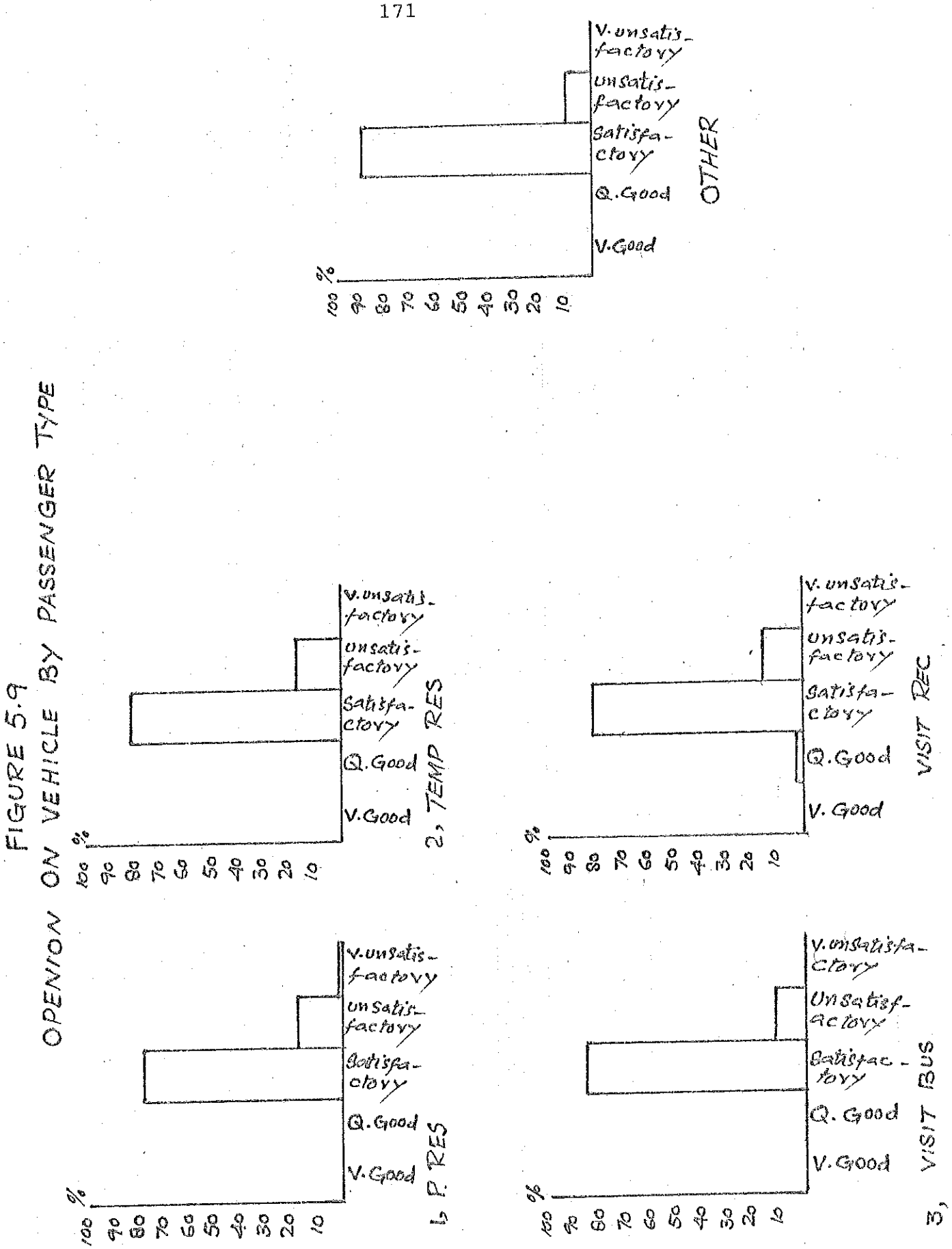


FIGURE 5.9
OPENION ON VEHICLE BY PASSENGER TYPE



to undertake. Those responding in the affirmative were then asked to signify which of the four options would have been their first choice:

- Bus
- Mini-bus
- Wagon
- Suzuki

Over the study area as a whole, preferences as to which mode would have been chosen were 24.4% of bus as a first preference & 38.30% of wagon as a first preference. The suzuki obtained only 6.90% of first preference votes (Figure 5.10).

Following through our analysis, differentiation by passenger type (Figure 5.11) reveals little apparent variation attributable to differences between categories of passenger when asked about the taxi as being the prefered mode, whilst preferences for alternative modes(Figure 5.11) disagregated by passenger type indicate that for all categories, the wagon is the most popular preference.

5.7.6 Willingness to pay higher fares:

The results obtained in the survey were at least internally consistent in terms of the general trend of the behavioural intent revealed, although there was a greater than expected proportional of users expressing a willingness to pay more than would have been expected considering the distribution of responses with respect to opinion of fares.

Figure 5.10

HISTOGRAM ANALYSIS

(OTHER MODE)

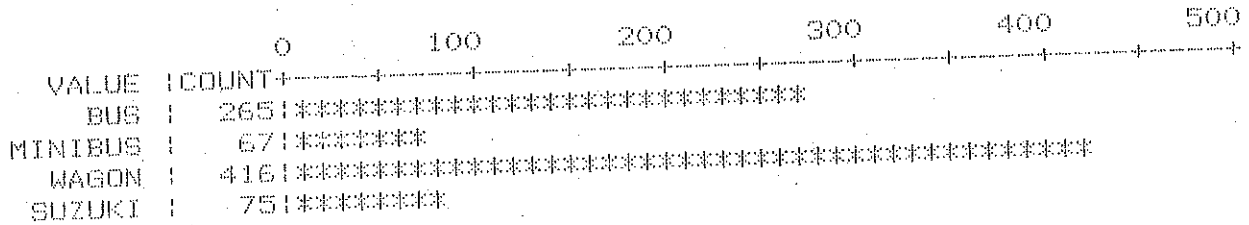
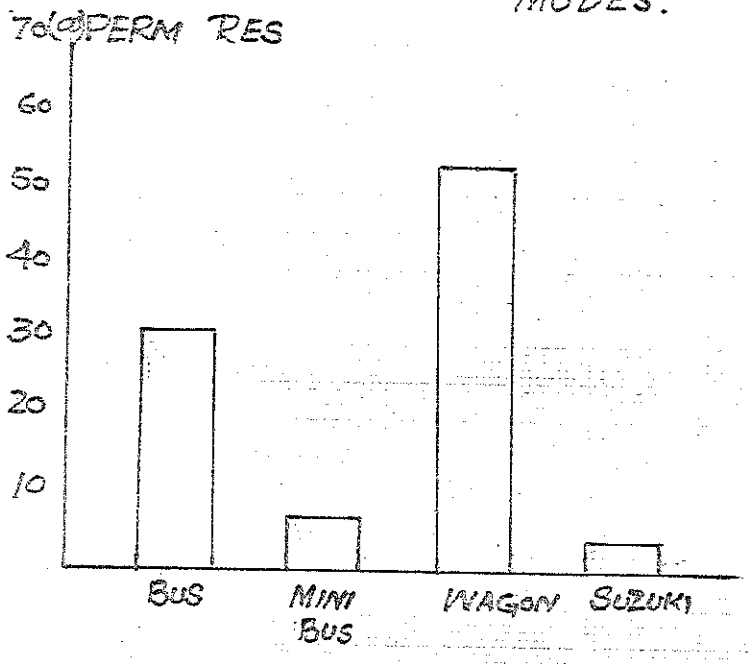


FIGURE 5.11
PREFERECE TO TRAVEL BY OTHER MODES.



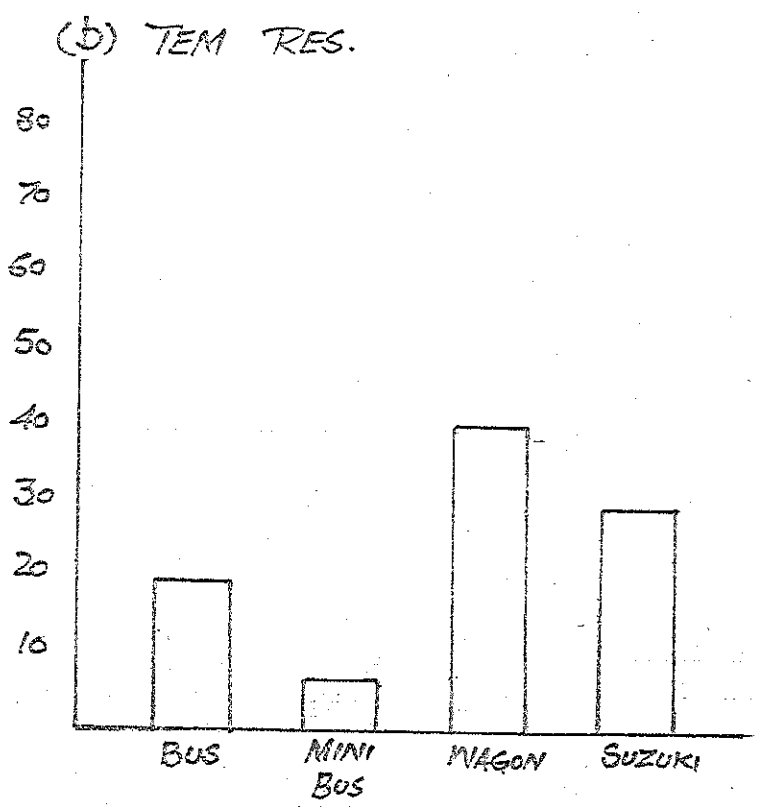
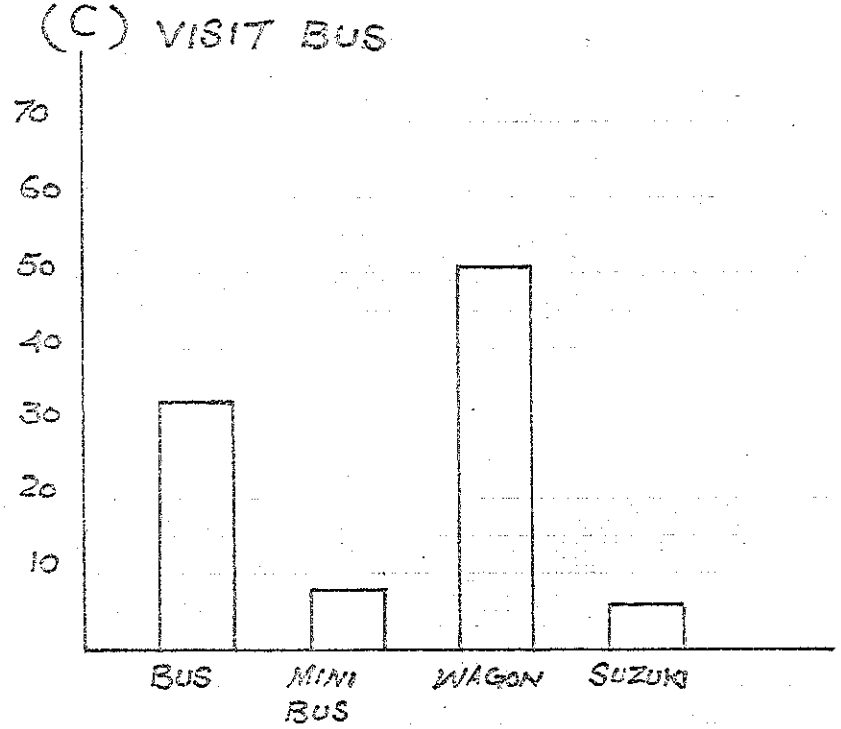


FIGURE 5·11 (Contd)

PREFERECE TO TRAVEL BY OTHER MODES.



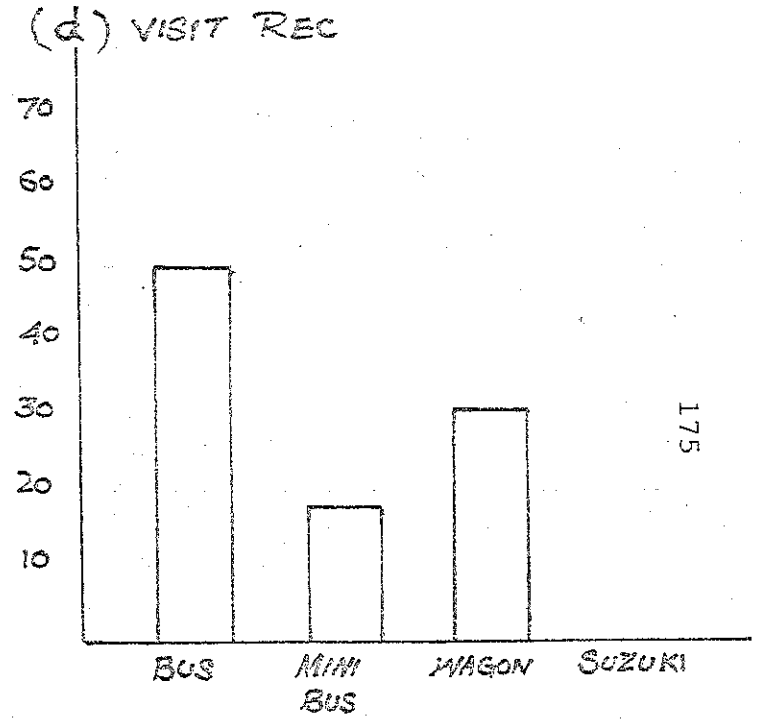
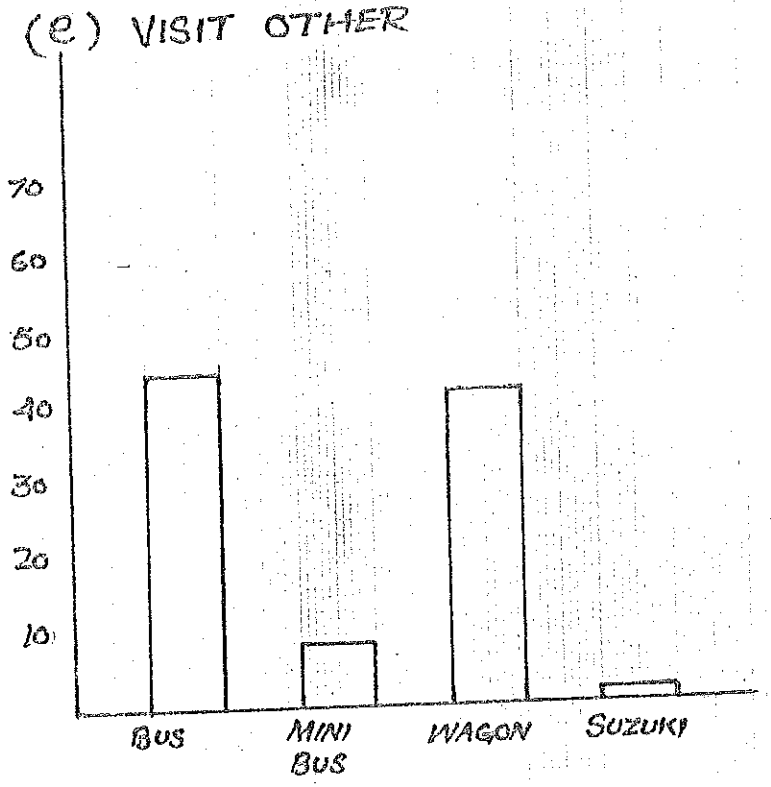


FIGURE 5.11 (Contd)

PREFERECE TO TRAVEL BY OTHER MODES



In the left column of Table 5.11 are 'yeses' as a percentage of the category immediately above them; figures in the right column are the percentages of all passengers responding in the affirmative.

Interpreting these results, everyone responding postively to the idea of paying more (approximately half of all passengers) was willing to pay to lease 25% more, but only 25.20% were willing to pay at least 50% more. By the time we arrive at a 100% increase in fare only 0.84% of all travellers are prepared to pay this level of fare.

Disaggregating by passenger type, we see in Figure 5.12 that the permanent residents as a group are least inclined to pay 45% more, although it is the temporary resident who is less inclined to pay at least 51% more. However, the differences are small and are probably not significant. Figure 5.13 suggests that as frequency of use declines, the proportion of passengers willing to pay more for a higher quality vehicle also declines, but rises again for very infrequent users. As a test of consistency in attitudes, if we plot willingness to pay more against opinion on fares.

Table 5.11
Willingness to Pay a Higher Fare

	Responses	Percentage
25% More	358	73.96
50% "	122	25.20
100% "	04	0.84
Total:	484	

Total percentage of all Responses : 57.07

FIGURE 5.12

Willingness to Pay Higher Fare by Passenger Type

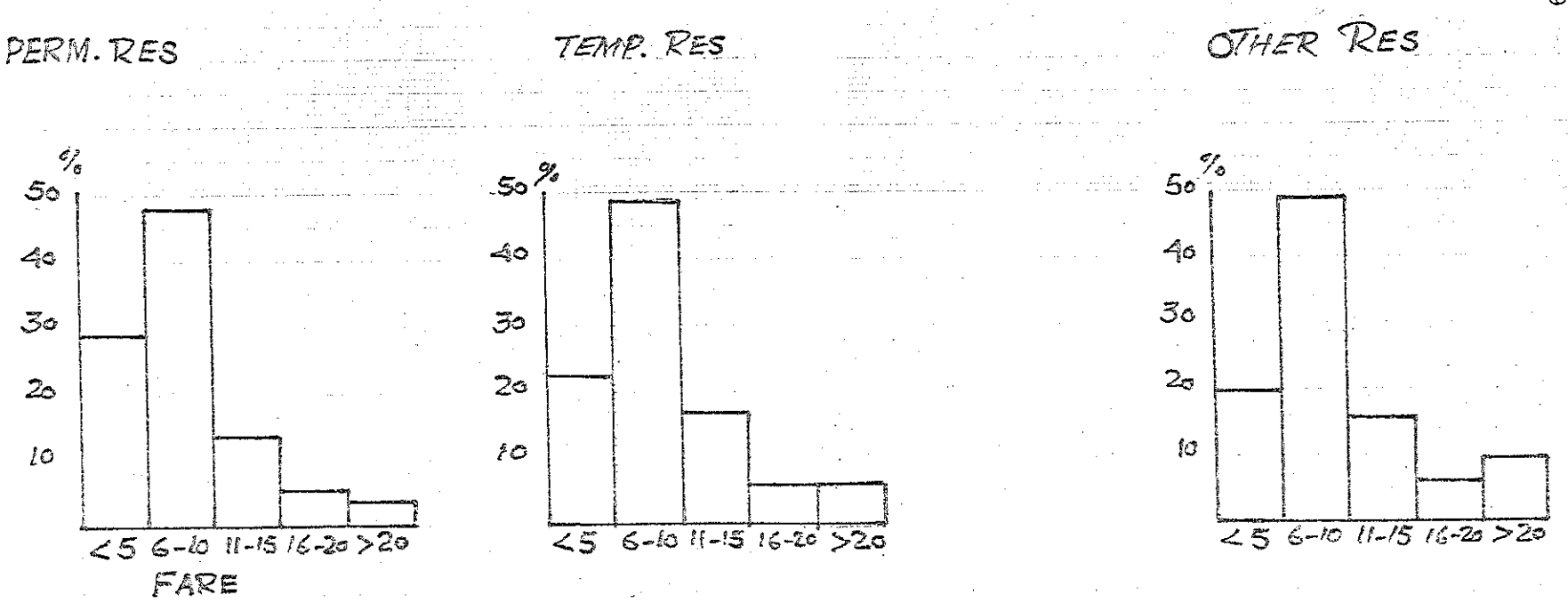
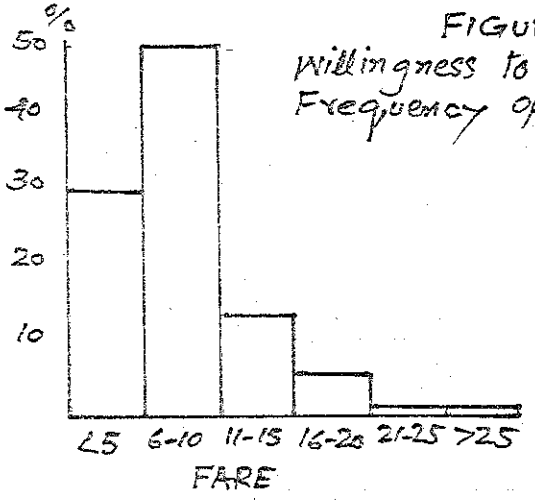
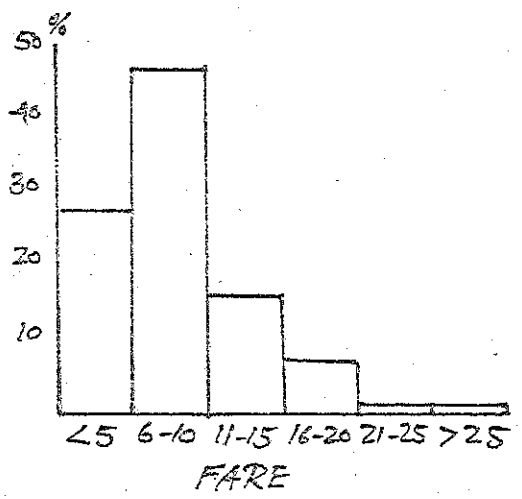


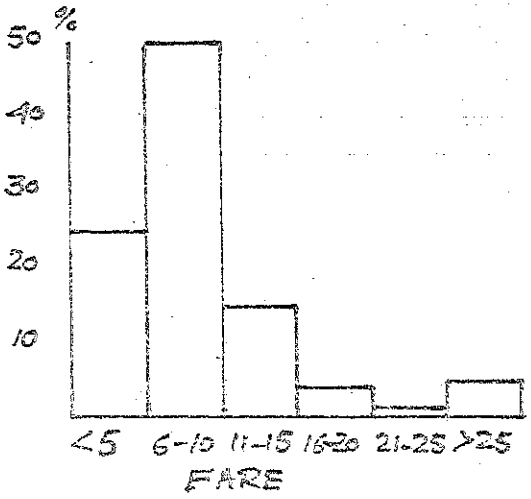
FIGURE 5·13:
Willingness to Pay Higher Fare by Frequency of use.



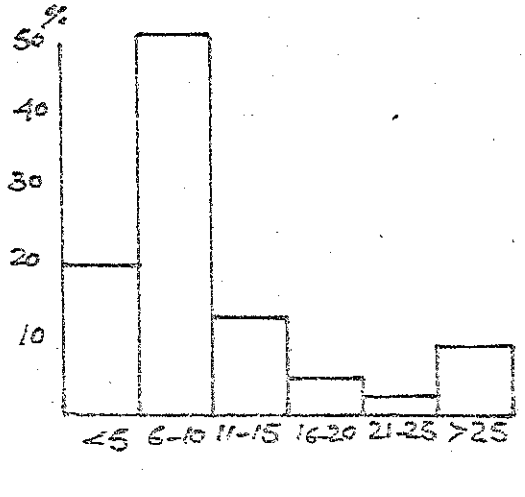
(DAILY)



(WEEKLY)



(MONTHLY)



(INFREQUENT)

Chapter - 6

FINDINGS

In this study general and national trends have been considered before dealing with the taxi industry structure in Lahore city. The findings of this study are based on an extensive data collection and interviewing of passengers/ drivers/taxi owners/union office bearers and government officials. Comprehensive data collection forms were used and questions were asked from the passengers, taxi owners, and owner-drivers. Because of mass illiteracy among the taxi owners and owner-drivers and most of the passengers we resorted to asking questions rather than doing interviews by mail. Efforts were made to ensure that sampling procedures were systematic and scientific but most of the information, like 'operating cost' was based on memory of owner and owner-drivers.

6.1 National Trends

1. At national level Pakistan has seen marked increase in the number of private motor vehicles which have grown by a factor of 3.8 in a period during which the population has increased by only 38%. National taxicab fleet has increased by a factor of 2.4 during, the period 1974-83. Approximately 20,000 vehicles are said to be operating in Lahore in 1983. The number of rickshaws, which was twice than taxicabs in 1974, has grown by a factor of 2.5 to stand at 36,500. In 1983 the number of taxicabs and rickshaws became double than the buses.

2. Taxi systems in the important cities of Pakistan is an important and integral part of the urban transport system. The number of taxis in the country has doubled over the last 10 years. It was also found out that at a level of 3.17 rickshaws per thousand persons, it is higher than that found in more developed countries with more personal vehicles and better transport system. With the increase in urban population we should expect a proportionate increase in the number of taxis but the taxi increase is likely to be a function of trends in future public transport vehicle rates.

6.2 City of Lahore: (Summary Statistics given in tables 6.1, 6.2 or 6.3)

1. Over the past few years taxicabs have reduced in number in Lahore city. Rickshaw has a better economic performance. Imported vespa motor scooters proved very popular and the liberal policy adopted for their import is no longer operative. The Pakistani-built rickshaw could not become popular because of its operating cost profile not being so attractive. Thus, the prices of old model of vespa scooters have escalated at a rate out of proportion of their true worth.

2. The reduction of taxicabs in Lahore could be as a result of competition from the rickshaws which are more economical and also could be due to liberal grant of rickshaw route permits by RTA. Other reasons could be high prices of cars and high cost of maintenance.

Table 6.1

Summary Statistics of Operation

		Rickshaw	Taxi
Total Population of the city		3,447,960	
Total number of vehicles in the city		178,939	
Total number of zones in study area		182	
Total number of stands in city (official)		42	
Total number of rickshaw on ETO record		21,504	2,123
Estimated number of vehicle in fleet(on road)		12,155	783
Percentage owner drivers		31.2	62.5
Average Model of vehicle		1978	1968
Average age of vehicle		8.30	18.0
Oldest Vehicle		1970	1965
Newest Vehicle		1983	1969
Average trip length (study area)		7.46	7.46
Daily output (Kms) per vehicle		169.4	90.82
Average days worked/annum/vehicle		336	324
Average hours worked/annum vehicle		3,480.96	4,004.64
Daily Revenue (Kms)/vehicle(engaged Km)		128.12	70.35
Contractor : Contractor fee (Rs.)		--- 1,788 p.m. ---	
Employee : Contractor fee (Rs.)		--- 2,475 p.m. ---	
Average Market Value (Rs.)	Owner-driver	58,269.23	24,187.50
	Other Owner	61,059.43	27,254.50
	All owner	59,664.33	25,721.00
Daily number of trips/vehicle		15.40	10.66
Total Annual Kms/Vehicle		56,824.0	29,425.7
Annual Fuel Consumption/Vehicle (Litres)		4,548.88	3,130.10
Average Annual Revenue/Vehicle (Rs.)	Owner-driver	67,155.34	67,474.1
	Other owner	64,778.20	61,060.1
		65,966.77	64,267.1

Contd.../-

Table 6.1 (Contd.)

		Rickshaw	Taxi
Total Annual renovation Cost (Rs.)	Owner-driver	3,005.0	3,008.82
	Other Owner	5,330.0	5,967.85
	All Owner	4,152.50	4,488.33
Total average annual fixed costs(Rs)	Owner-driver	1,735	2,550.27
	Other Owner	2,250	3,325.37
	All Owners	1,992.50	2,938.12
Total average annual semi-fixed costs (Rs.)	Owner-driver	36,837	27,839
	Other Owner	36,338	29,379
	All Owners	36,587	28,609
Average fuel consumption Km/Litre		12.50	9.4
Average Passenger trip length(Kms)		8.32	6.60
Average Distance Empty/Trip (Kms)		2.68	1.96
Vehicle Operating Cost (per Km) (Outright Purchase)	Owner-driver	0.72	1.19
	Other Owner	0.94	1.62
	All Owner	0.83	1.40
Vehicle Operating Cost (per Km) (Bought on Instalments)	Owner-driver	0.74	1.22
	Other owner	0.95	2.28
	All owner	0.84	1.75
Annual Net surplus (Owner-Driver wages allowed at Rs.11,760 pa)	Outright Purchase	13,914.34	20,453.10
	Bought on Instalments	13,218.34	19,567.10
Main problems facing taxi owners (in priority).	1) Police		
	2) Spare Parts		
	3) Passengers		
Annual Cost(Outright Purchase)	Owner-driver	41,481	35,261
	Other owner	53,582	47,932
	All owner	47,531.50	41,596.50
Annual Cost(Bought on Instalments)	Owner-driver	42,177	36,147
	Other owner	54,082	48,652
	All owner	48,129.50	42,399.50
Annual Revenue minus vehicle costs	Owner-driver	25,326.34	31,770.10
	Other owner	10,946.20	12,768.10
	All owners	18,136.27	22,269.10
Number of Passengers carried by taxi system per day.		280,824.54	25,817.45
Average Journey Distance covered by taxi system per day.		1,755,153.40	63,755.64
Aggregate distance covered by the taxi system per annum.		589,731,542.40	20,656,827.36

Table 6.2

Summary Statistics on Passenger Use of Taxis

		Taxicab	Rickshaw
Average Vehicle Occupancy		3.45	1.76
Average Waiting Time(Minutes)		3.0	6.15
Average Walking Distance (Metres)		57.73	65.6
Average Trip Length (Kms)		6.60	8.32
Average Fare paid (Rupees)		94.83	10.45
Frequency (%)	Daily	0.0	21.8
	Weekly	11.8	38.4
	Less than one week	35.3	28.4
	Infrequent	52.9	11.4
Percentage Prefering to Travel by Other Mode		23.72	78.67
Opinion on Fares (%)	Very Expensive	0.0	0.0
	Quite Expensive	0.0	0.2
	Reasonable	58.8	81.3
	Quite Cheap	41.2	17.9
	Very Cheap	0.0	0.6
Percentage of Passenger Willing to Pay More		49.15	47.51
Opinion on Vehicle (%)	Very Unsatisfactory	0.0	0.0
	Unsatisfactory	0.0	0.9
	Reasonable	47.1	81.5
	Quite Good	52.9	16.2
	Very Good	0.0	1.3
Passenger Type (%)	Permanent Resident	23.5	65.5
	Temporary Resident	35.3	17.9
	Visit on Business	11.8	8.3
	Visit on Recreation	11.8	3.5
	Other Visitors	17.6	4.9

Table 6.3

SUMMARY STATISTICS - TAXI FARES

	Fare Rate (Rs.Per KM)
Study Area Average	2.96
Rickshaws	1.56
Visitors	3.25
Lahore Airport	3.10
Lahore Railway Station	2.87
Mazang Addah	2.50

3. At the time of survey in 1987, there were 21,504 rickshaws and 2,123 taxicabs for which route permits were issued but only 12,155 rickshaws and 783 cabs were operating within city of Lahore including Cantonment. Nearly 20% of rickshaws are 1976 model and 19% cabs are 1967 model. These rickshaws travel an estimated 691 million km per year, out of which about 522 million kms are covered with fare paying passengers, and taxicabs travel an estimated 23 million km/year, out of which about 17 million kms are covered with fare paying passengers; yielding in the process approximately Rs. 864 million as revenue.

4. The ownership structure of taxi in the city of Lahore is nearly evenly divided between owner-drivers and other owners who contract out their vehicles to drivers. Majority of owner-drivers and other owners have only one rickshaw/cab while maximum fleet size recorded is of four vehicles.

5. Fixed costs like capital value, token tax, route permit, fitness tax, insurance, fines and miscellaneous may account in certain cases for more than 4.79% of the operating cost per km. Engaged kilometers per day averages 75.63% for rickshaw and 77.46% for taxi which result in farely low earnings.

6. Semi-fixed costs include vehicle renovation and lubrication costs. Variable costs include vehicle maintenance and

repair, lubrication and routine servicing and fuel cost, etc. These costs average about Rs.36,587.50 per year for rickshaw and Rs. 28,809.00 for taxicab. Other owners contract out their vehicles under varying arrangements like:

(1) The vehicle is contracted or hired out at Rs.50-100 daily.

(2) The vehicle is contracted or hired out at Rs.900-3300 monthly.

(3) If the driver is a regular employee at Rs. 50-60 daily.

(4) If the driver is a regular employee at Rs. 500-1500 monthly.

7. There are no organized/registered taxi operating companies. There is a taxi union in Lahore but not all owners and drivers of vehicles plying in the city are members of this union which does not have proper office.

8. The relationship and liaison between the taxi union office bearers and the city administration (police, RTA, ETO and Civil Administration) is either non-existance or inadequate.

9. The union is not organized on proper footings and according to the office bearers, they and the drivers are not given due respect. They are considered by the Government and the society as belonging to a low class and majority of them are seen as criminals and thieves. A few acts of theft and other crimes bring hatred for every body in the industry who otherwise may be good citizens. There have been some instances when a murder or a theft committed

by a rickshaw/taxicab driver was traced by the police with the help and the cooperation of the union leaders who sometimes maintain personal history sheet of a driver containing his photograph. Not many people appreciable the good acts of drivers when they return valuables left by passengers.

10. On the whole the official increase in the fare rate has not been compatible with the increase in the price of fuel, tyres and parts, etc. RTA does not have the expertise to do the economic analysis and assess the correct fare rates. Hence, official fare rate is known to be based on assumption/estimation.

11. The vehicle is normally not comprehensively insured. Thus, the passengers and the drivers are not adequately compensated for injuries and deaths.

12. It is known that till 1971 majority of the taxis had functioning meters installed in the vehicles and it was customery to operate the meters to assess the rent. Now majority of the rickshawsdo not carry the meters and those which do have meters normally do not use them. The official fare fixed is Rs. 2.25 per km for rickshaw and Rs. 3/- for cabs but mostly the fare is decided after bargaining between the passenger and the driver for the trip length.

13. It is interesting to note that average fare charge is less than the official rate. Passengers do not like the driver to turn the meter on because they think

that it might have been tempered with. Some of the drivers like to use the meter but the passengers prefer to settle the fare before travelling or hagal on reaching the destination. As a result, the meters have either been removed from the vehicles or have gone defective.

14. Mostly the terms and conditions set out by the contractors while leasing the vehicle are very tough. Correspondingly, wages are low, working conditions are poor, interest rates are very high and profits are minimal.

15. The average rent charged is cheaper for longer trips (12.4 km) as compared to shorter trip (1.5 km). For the narrow streets and roads of the Lahore city rickshaw has been found very useful and economical. It provides door to door service.

16. Normally rickshaw is designed for two passengers but cannot carry heavy baggages. The practice of rickshaw sharing is practically non-existance. Taxi drivers normally face quite a few problems, predominently at the hands of the passengers and the police. The drivers have complained that some percentage of passengers refuse to pay the agreed rent on reaching the destination while police demands gratification. There are 42 recognized taxi stands in the city which were surveyed. The stands are normally without the requisite facilities of proper parking, shade, telephone and rest room, etc. At some stands Rs. 2/- per vehicle is charged as parking fee. Average walking distance to the rickshaw stands is 65.6

metres and is 57.73 metres to taxicab stands which is quite reasonable. Even then each and every passenger wants to be picked up and dropped at their door steps. The overall condition of the rickshaws i.e. their appearance and the mechanical performance is not good whereas taxicabs are better looking.

17. Average annual income of owner-drivers and other owners i.e. all owners is estimated to be Rs. 18,435 for rickshaw and Rs. 26,520 for taxicab. The driver of rickshaw makes between Rs. 1,050 to 950 by working 10:30 hours to 12:30 hours per day (i.e. his wages). But, it is more realistic to take into account the project (@ 15% discount rate) on the average purchase price of the taxi i.e. in case the owner decides not to buy a taxi but invests the money the annual income (all owners) of rickshaw owner is Rs. 9,337.47 and of cab owner is Rs. 17,422.40 which are very meagre.

18. On the whole all owners (driver-owner and other owners) are not happy with the business. Most of them indicate that they are in this business because there are no other opportunities/employment available to them.

19. Though rickshaw is economical and useful in narrow streets/roads yet it is uncomfortable and an safe vehicle. In case of an accident the driver and the passengers sustain serious injuries and environmentally it produces high noise levels and exhaust emissions.

20. No institutionalized credit is easily available. The owners who are buying their vehicles on hire purchase are economically worse off due to the high finance cost whereby the interest rates are normally more than 3% per month. In financial i.e. cash flow term they find themselves in great difficulties due to the added burdon of having to meet the monthly instalment on due date.

This financial instability combined with lack of other facilities like in-adequate insurance and un-due harassment by the traffic police make this industry basically un-healthy. Failure to pay instalment in time can cost the driver the loss of taxi and thus his livelihood.

21. The turn-over in the industry is fairly high. On the average most of the owner-drivers and other owners stay in this business upto 11 years and 9 years respectively.

22. On the whole the number of rickshaws in Lahore indicate an over-supply problem. Though it is nice to have maximum number of rickshaws available for the people but the over-supply has its own inherent problems/dis-advantages. This is proved by the facts given in Table 6.2 on average low waiting time/ walking distance and attitudes of the passengers, etc.

23. On the average Lahore rickshaw system carries some 280,824 passengers a day and taxicab system 25,817 passengers a day. On the average distance covered in each journey for the system tends to be short with the average journey distance in the region of 2,059,057 Km per day for rickshaws and 71,112 km per day for taxicabs. On aggregate the system performs some 691 million km per annum for rickshaws and 23 million km per annum for cabs. Our study has shown that a high proportion of passengers are both regular taxi users and permanent residents of the study area.

24. Hardly any journey has been charged on the meter. Regarding the level of service, majority of the passengers (99.99%) showed their statisfaction over the price of paying agreed fare. They (47.1%) also showed their satisfaction over the level of the service in general provided by the rickshaw industry and (81.5%) for taxicab. Over 73.94% indicated that they were prepared to pay at least 25% more to ride in even bettern rickshaws/cabs although the majority seem to be satisfied with the overall standards of the vehicles and behaviour of the drivers.

25. Average fare for the study area is Rs. 2.96 per km but for visotors it is Rs. 3.25. As the visitor does not know the reasonable fare rate, driver will try to charge higher rate.

26. At places like airport and railway station fares are on the average approximately 5% higher than the study area average i.e. Rs. 3.10 for all vehicles at airport.

27. Out of 21,504 rickshaws plying in the city, 31.2% are operated by owner-drivers. Average model of the vehicle is 1978 and out of 783 cabs plying in the city, 62.5% are operated by owner-driver. Average model of the cab is 1968.

28. Average daily output per vehicle is 169.4 Km with daily revenue Kms of 128.12 and for cabs 90.82 Km with daily revenue Kms 70.35.

29. Majority (58.8%) of rickshaw passengers and (81.3%) cab passengers termed fares charged as reasonable.

30. Vehicle occupancy is 1.76 i.e. 2 but certain number of rickshaws have been seen carrying 3 or even 4 passengers. This situation normally arises when a family of 3 or 4 members want to pay fare for one rickshaw or a little more and travel together. Driver is thus forced to violate law.

31. Vehicle operating cost per Km is Rs. 0.73 for owner-driver and about 0.945 for other owners when the rickshaw purchased outrightly. If the vehicle is purchased on instalments, it is Rs. 0.74 and 0.95 per km respectively. Fro cab operating cost/km is 1.21 for owner-driver and Rs. 1.95 for other owners, and by instalments Rs. 1.22 for owner and Rs. 2.28 for other owners. Deducting driver's wage of Rs.11,760 per annum and operating cost from the revenue the annual net earnings are Rs. 13,914.34 and Rs. 13,218.34 for outright and instalments purchase respectively for rickshaw and Rs. 20,453.10 and Rs. 19,567.10 for outright and instalments, respectively for the cabs. These figures are true when depreciation or project on investment of purchase price are not taken into account. When these are taken into account (Table 4.20) the income is very meagre i.e. Rs. 9,337 per annum for rickshaws (all owners average) and Rs. 17,422 for taxicab (all owners average).

32. Pakistan-made rickshaw has not proved popular with the owner-drivers and the other owners. It has been found uneconomical as compared to the older model of imported Vespa scooters.

33. So far the taxi industry in Lahore has received no support form the Government in any form whatsoever. There has not been any serious effort by the authorities to review the condition of this industry and introduce improvement schemes like cooperatives, loan on easy terms and effective and adequate regulations to control and coordinate the operation of taxis.

34. Pakistan has a very high rate of un-employed/under-employed population. As a result people in the private sector are attracted towards the taxi industry but on finding it disorganized and sick with little profit the owner-drivers and other owners try to quit after 10 years or so in this business.

35. Spare parts are very expensive. Fast moving parts are spark plugs, point, fuel filter and tyres.

36. Authorities have never recognized the taxi industry as an important and integral part of transport serving urban areas.

37. Taxis operate independently i.e. there are no cab companies in the city. There are no radio controlled taxicabs in the city.

38. On the average the drivers are illiterate and not well trained. Improvement in the taxi industry will result in more income for all owners. This will automatically attract more cabs and more drivers to this industry.

39. Even when taxicabs are available, majority of the female passengers use rickshaws for security reasons. In case three lady passengers want to travel by a rickshaw they would never hire a second one, which will force one of them to travel alone in a rickshaw. Passengers with luggage normally look for a taxicab, most of which have a carrier on the roof . Ambsulana service is not easily available. Hence, people without cars use cabs/rickshaws to carry the sick/wounded to a hospital.

41. Urban Transport - driver bus service, mini-buses, wagons, and suzuki carry a big percentage of commuters but these ply on fixed routes. Also, during rush hours ladies and old people find it difficult to use the urban transport. So, rickshaws and cabs are essential for carrying such passengers, particularly from/to places like railway station/airport, etc. Also, taxi is quicker and provides privacy.

42. Share-a-taxi is not a common practice. This may be because of shortage of cabs or due to security problem.

6.3 CONCLUSIONS AND RECOMMENDATIONS

Taxis serve an important part of transport demand and these are generally used by middle and sometime by the lower group. Steps should be taken by the federal and the provincial governments to optimise the efficiency of the taxi system. In the absence of a quick response by the authorities, the quality of service will further deteriorate .

The four important areas which need the attention and should be considered while formulating a development plan are:-

(a) physical feasibility - enough drivers/vehicles;

(b) operational feasibility - integration with other modes of transport;

(c) institutional feasibility - constraints and/or barriers;

(d) financial feasibility - potential costs to the city/provincial/federal governments.

City of Lahore has reasonable number of rickshaws. So, there are sufficient rickshaw drivers and vehicles available to offer contractual and/or subscription services in the city but taxi cab number is in-adequate. This city will approximately need 2,000 taxicabs as against 783 presently plying. Foreign assembled Vespa scooters have proved popular and economical as against the locally produced rickshaws. The industry should be streamlined to manufacture Vespa rickshaws which should be compatable with the Italian models both in quality

and the price. Datsun and Toyota Cars of 1200 CC HP have proved their utility as taxicab in the past. Now, Suzuki Cars (800/1000 CC) are being manufactured in the country which can be used as taxicabs. The supply side of taxis should be kept at reasonable level because both over - supply and under-supply are injurious to the efficient working of the system and overall welfare of the taxi drivers, operators, other owners and the passengers.

Innovative concepts for increasing taxi participation in public transportation and improving service quality in general should be given serious consideration by the authorities. So far the government objectives and policies for use of mass transit in the development plans did not specifically address taxi usage. The policy statement can be to "improve taxi service in all the major cities including Lahore to provide efficient links to the bus station, railway stations, and air terminals".

Consolidation of authority over taxi operation in one agency, to the extent feasible, and coordination with that agency for non-collapsible functions should be considered by the Government. In USA this concept has been proposed in taxi studies over the last three decades. Given the changing role, needs and service concpets in the taxi industry, consolidation of authority with flexibility to address changing industry requirements through administrative processes might better serve the public

interest. Transport has already been declared as an industry. Hence, people in the taxi industry should also be given due facilities/concessions as planned and provided for other transport modes.

Credit/loan on soft terms for the taxi drivers should be provided by the Government through the banks for the purchase of vehicles. Government Cooperative Stores should be established to supply the spare parts at controlled rates. Government should allow duty free import of 1000/1200 CC Cars to be used as taxicabs in the City of Lahore. Steps should be taken to ensure the useage of the imported cars as taxicabs only.

Return on investment should be made attractive for the investors through adequate return. Proper metering denies profitability. Internationally, there are many practices to establish a fare structure. We recommend that fares for fixed trips i.e. for one Km, two Kms, three Kms, etc. should be fixed by the authorities and the fare table be revised annually. The fare table should also indicate waiting time charges. Another non-metered fare system can be zonally, odometer and flat. Because of security and other problems shared-ride system is not likely to work in our cities. The meter system has already proved a failure. Hence, we recommend the first alternative mentioned above i.e. for fixed trips.

It is important to review the location of taxi stands in the city. The stands should be located

at appropriate places and un-authorised taxi stands should be eliminated. Cruising practice is internationally recognized. Hence, the cruising drivers cannot be forced to refuse passengers along the road side. Instead, the improvement of city road system should allow taxi stops (like a bus stop) to pick-up/drop a passengers during cruising. Each taxi stand should be planned and designed to provide basic facilities like shade for the vehicles, telephone, bath room, passenger waiting room, and drinking water, etc. The design of the taxi stand could allow free entry and exit or the one with one entry and one exit. Both have their own advantages. The former encourages open competition while the latter allows a rickshaw/cab to pick up the passengers on its turn.

The existing rules and regulations for the taxi industry are old and inadequate. The rationale for taxicab deregulation is three folds. First, it is alleged that the restriction has enabled the operators/firms to charge higher prices than those which can prevail in a non-regulated industry. Second, if the taxis in the industry are too few, as they may be under regulations, the increase in industry size which follows deregulations should improve the level of service to the consumer. Third, most city which regulated taxis allow only a single type of service, namely, Exclusive-Right Taxi (ERT) service in which a single user or party of user for exclusive control over the

vehicle for the duration of the trip. This will command a premium fare. There is another rational for deregulations to allow taxi operator to provide greater variety of price/ service options than is the norm in a regulated industry. Even if deregulation has its advantages, we still need regulated industry for which adequate regulations need to be constituted.

Regulations cannot be expected to be uniform for all the cities but they commonly encampass entry, price and services typically: (1) entries restricted on the basis of either "objective" criteria (such as a ratio of taxicab to population) or standard to convenience and necessity; (2) maximum and minimum rates are subscribed; and (3) companies/operators must meet certain service standards such as 24-hour availability of service and a certain level of response time, etc. In most cities where taxicabs are regulated, there is little or no entry into the industry except by the purchase of licence or permits from necessity operators. In addition a single set of rates usually prevails. Deregulation of taxi industry can take the form eliminating or relaxing restriction on rates, on etry or of both. Service standard can some time be retained.

Taxis by law must be comprehensively insured so that, in case of an accident, the vehicle, the driver and the passengers are adequately compensated. Introduction of group insurance and benevolent fund schemes should be considered for the benefit of the taxi drivers.

The City Government may consider the provision of taxi pool information service. This is particularly

useful for people engaging taxis on monthly basis to go to place of work or for school going children. This Centre could also be designated as a complaint cell to receive complaints of misconduct, theft etc by the drivers.

In the absence of organized taxi companies i.e. with the increase in the number of independent operators in the taxi industry, the training opportunities for the drivers have decreased. In the advance countries the training requirements for all the public vehicle operators (i.e. bus and rail operators) is continuely recognized. The "professionalism" of the taxi driver is the legitimate and worthwhile public goal. In view of declining revenues in taxi industry in general, there is an increased need for professional development and expansion of service if the industries are to remain viable. Driver training could include topics like knowledge of the city, highway safety, courtesy to the passengers, knowledge of their legal rights, training in first aid and pride of profession , etc. Every big city should establish a taxi driver training school to impart one week training course to every new driver.

The traditional employment of drivers on commission basis is likely to be replaced by lease - drivers and cooperative - share arrangements. It is important for the taxi industry, transit policy planners, and local regulatory policy makers to undertake these new types of taxi organizations and their internal structures, their

operations, and their adjustments to different regulatory environments. There is a need to carry out a in-depth study of these non-traditional organizations, with particular emphasis on the cooperative firms. We should pay special education to several meaningful of the terms 'cooperatives' as it is now used in taxi industry of other countries like USA. Generally cooperatives "means a firm of business association". In one of the study done in USA a typocology of non-traditional taxicab firm has been constructed. Though it is difficult to draw the realistic typocology because of great variety in the taxi industry yet such a typocology can be usefully drawn and use of outline the defining characteristics which distinguish taxicab firm like cooperatives from traditional taxis and firm and from one another. A figure taken from the above mentioned study is given at Figure 6.1 as a guideline towards investigating the establishment of cooperatives in Lahore and other cities in Pakistan.

In order to introduce the concept of quality service in Taxi Operation, it is proposed that a Radio Controlled Taxi Cab Pilot Project be introduced in Lahore in the private sector with the following objectives:-

- To provide a 'prompt' and an efficient demand response door to door service.
- To ensure complete safety of passengers.
- To minize the 'empty running' and hence improve the financial viability.
- To act as a model for other Taxi Services.

Fig. 5.1
Collective Features and Technology of
Nontraditional Cab Companies

Collective Features	Variations In Collective Features			
	Minimal Features			Maximum Features
A. Sharing of Common industry Services provided by Coop	Basic services, mostly radio dispatch, logo, color	Basic services plus member assistance	Full industry services	
B. Participatory Responsibility of Membership for Providing Cab Services	No responsibility; (minimal contact requirements with operators)	Responsibility of members (stipulated requirements for hired or lease drivers)		Membership responsibility of all employees
C. Participatory Membership	No membership, affiliation on fee basis	Operator's ability to acquire local operating permit and membership share		Employee application and continous work
Requirements Principles	No membership, affiliation on fee basis	Voting number of shares/ (or) stocks held	One vote per member independent of shares held or patronage earned	
D. Sharing of Organization Surplus	None shared: 100% of industry service revenues retained by service company; owner operator seeks individual return on investment	Indirect distribution as lowered cost to operator members of industry services	Reduced lease rates (indirect) and direct prorata share of coop surplus to operator members	Patronage distribution of coop surplus to all employees

Source (2)

Figure 6.1 (Contd)

Collective Features and Typology of Nontraditional Cab Companies

Collective Features	Variations In Collective Features			
Typology and Examples	Industry Service Company Examples: *Yellow Cab (Seattle) *Yellow Taxi Service Corporation (Minneapolis) *Coast Cab (San Diego)	Operator Service Cooperative Examples: *Far West (Seattle) *Yellow Cab (Salt Lake City) *Co-op Cab (San Diego) *Independent Cab Owners Association (San Diego) *United Independent Taxicab Drivers (Los Angeles) *Independent Taxicab Owners Association (Los Angeles)	Operator Producer Cooperative Examples: *Yellow Cab (San Francisco) *DeSoto Cab (San Francisco)	Employee Cooperative Examples: *Yellow Cab (Denver) *Union Cab (Madison) *Taxi Unlimited (Berkeley)

It is expected that the Operators of 'Rent-a-Car Service' who almost have all the necessary infrastructural facilities (except for the Radio Controlled System) would be forthcoming to implement the project on a Pilot scale. NTRC is a suitable organization to extend all possible help for the necessary permissions/approval, etc. from the concerned agencies and would carryout a detailed monitoring during the Project period.

Rickshaw and taxi unions should be encouraged and helped to organize themselves on better footings/modern lines. Union membership should be made mandatory. Government should closely involve the unions in planning the taxi operation and decide on the fares. Unions should be asked to keep proper record of the industry and on the drivers including their addresses and photographs.

Steps should be taken to save this industry from police high-handedness. Once proper rickshaw stands and stops are made and the drivers/operators are provided the requisite facilities, enforcement of law should be done strictly. But, there should be no undue harassment and demand for gratification.

Private investor should be encouraged and facilities provided so that he invests, in taxi industry by way of starting well organized firms. Like many new industries, a new investor in taxi industry should be allowed a rebate in the form of no income tax and token tax, etc for first two years of the operation.

RTA and ETO offices should improve upon their record keeping which is inadequate and poorly maintained. If possible it should be computerized.

Taxi licence must be displayed in the vehicle for which it was issued. It must be displayed at a place so that the number of licence is plainly visible. Also, the driver's identification card must be displayed on person so as to be visible to the passengers.

After the Government introduces improvements in the industry - gives loans, allows duty free import of cars for taxi use, formation of taxi companies, formation of cooperatives, etc., monitoring of projects and a comprehensive evaluation every year is essential which will act as input for future policy planning.

Concluding Comments

Some people term taxi industry as too sick to be revived or even call it obsolete but we do not agree with this idea. Fact of the matter is that no one in public or private sector is known to have done any taxi survey before 1987. No authority has ever appreciated that the taxi industry should be an integral part of urban transport system and has made an effort to understand the real problems of taxi operators/drivers. This industry has never received any expert advice or help in the form of financial assistance, etc. The Government provides huge subsidy to the urban transport service in Lahore and other big cities of Pakistan. Even if

the Urban Bus System has been running in a loss all along, Government considers its operation with huge subsidy as a social obligation. On the same analogy Governments (Federal/Provincial/Local) should provide subsidy/loans on soft terms and extend other facilities to the rickshaw and taxicab operators. We are sure that with proper expert advice and financial assistance the taxi industry in Lahore can grow into profitable venture.

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