

A4.9 PARKING CONDITION SURVEY

A4.9.1 Design of the Survey

a. Survey Locations

The parking condition survey was carried out to collect necessary data and information for estimating parking demand and other relevant figures regarding present parking situation, especially central districts, in the Study Area. This survey includes an inventory survey, vehicle counting, and interview at three (3) areas around the city markets, with five (5) adjacent blocks along the main streets, which are shown in Figure A4.1.4.

b. Survey Method and Duration

(1) Inventory Survey

Charts based on the existing road map of the selected area were prepared to indicate the condition of on-street and off-street parking spaces. Widths of streets and the area of off-street parking spaces, including attached parking lots of buildings, were measured to estimate available capacities.

(2) Vehicle Counting

For on-street parking (including on-sidewalk parking), the number of parking vehicles by type was counted for each side of the street three times a day during morning, lunchtime, and afternoon periods.

(3) Interview

Information regarding parking condition (i.e. parking style, parking fee, payment method, frequency, etc.), trip purpose, walking distance to the destination, was collected through interview to the drivers who parked their cars in the survey area. In addition, reference question regarding proposed public transport system was also interviewed.

Table A4.9.1 shows outline of the parking condition survey.

Table A4.9.1 Outline of the Parking Condition Survey

No.	Survey Item	Contents
(1)	Inventory Survey	- Number of Parking Space - Fee (if charged)
(2)	Vehicle Counting	- Number of Parking Vehicles by Time, Type (6 categories), and Section
(3)	Interview	- Vehicle Type - Parking Style (off-street/on-sidewalk/on-street) - Payment Method & Amount Paid - Frequency of Parking - Distance to Destination - Trip Purpose - Reference Questions regarding Proposed Public Transport Service

A4.9.2 Survey Output

a. General

Table A4.9.2 shows brief summary of the parking condition survey carried out on May 24 and supplement survey carried out on July 25, 26, and 27, 2000.

Table A4.9.2 Summary of the Parking Condition Survey

Item	Figures		
	Car	Motorbike	Cyclo
Total Number of Observed Parking Spaces	10x10=100	15x3x15=675	15x3x15=675
Total Number of Observed Vehicles (per 6 hrs)	619	3,322	1,829
Average Duration of Parking (minutes)	26.2	18.1	14.9
Average Occupancy (%)	45.0	24.8	11.2
Effective Number of Samples	550		
Sampling Ratio (%)	9.5		

b. Summary of Parking Condition

(1) Parking Style

As shown in Figure A4.9.1, more than three-quarters (3/4) of drivers paid some amount of fee for parking, regardless of their parking style (i.e. on-street, on-sidewalk, or off-street). The major parking style was “paid/on-street” with a share of 59.3%, followed by “paid/on-sidewalk” with 12.5%, and “unpaid/on-street” with 11.5%, while “off-street” parking were about only 10% in total.

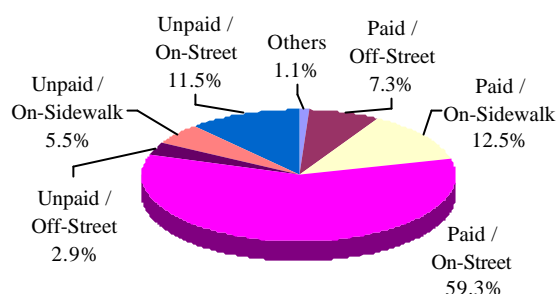


Figure A4.9.1 Parking Style

(2) Payment Method

As shown in Figure A4.9.2, the major payment method was “weekly” with a share of 38.2%, followed by “hourly” with 18.9%, “daily” with 16.2%, and “monthly” with 10.0%. These four (4) types of payment method formed more than 80% of total.

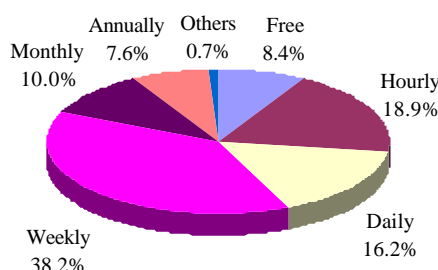


Figure A4.9.2 Payment Method

(3) Amount Paid

As shown in Figure A4.9.3, the major amount paid for each parking was “250~500 Riel” with a share of 55.3%, followed by “750~1,000 Riel” with 20.2%. Note that in the area not obliged to pay parking fee, some drivers might spend some amount of money at will.

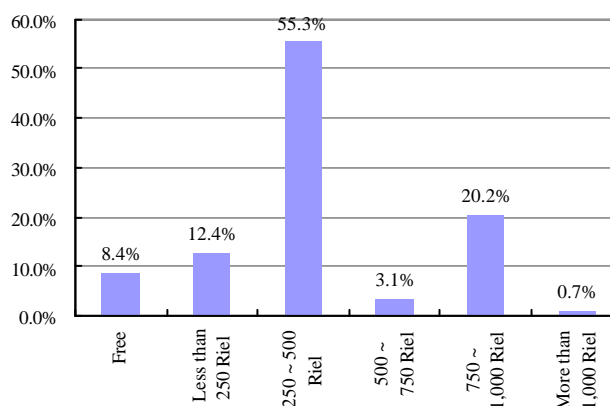


Figure A4.9.3 Amount Paid

(4) Frequency

As shown in Figure A4.9.4, nearly 70% of drivers in total were estimated as regular users (i.e. 4~7 times per week). Remaining almost 30% of drivers were estimated as occasional users (i.e. 0~3 times per week)

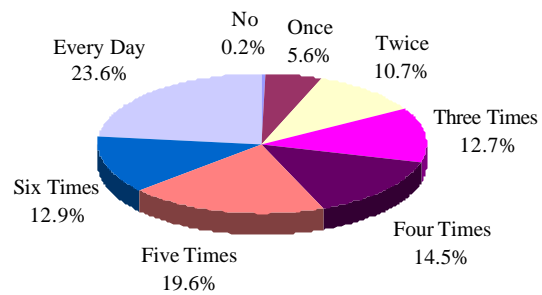


Figure A4.9.4 Parking Frequency

(5) Distance

As shown in Figure A4.9.5, more than one-third (1/3) of users walked between 50 and 100 meters from parking location to final destination, and the other almost one-third (1/3) walked up to 50 meters, while remaining one-third (1/3) walked more than 100 meters, and some of them walked more than 300 meters.

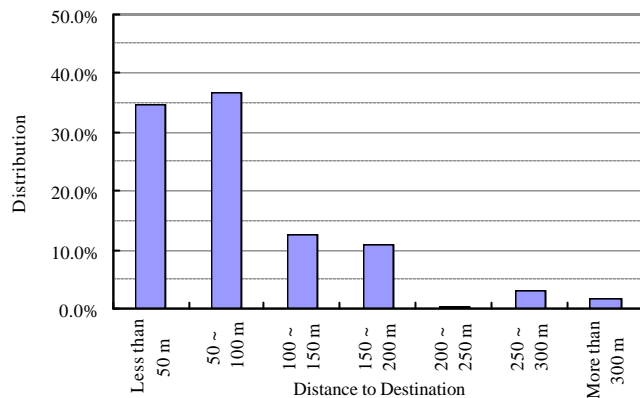


Figure A4.9.5 Walking Distance to Destination

(6) Purpose

As shown in Figure A4.9.6, the major parking purpose was “Business” with a share of 22.0%, followed by “Shopping” and “to Home” with 19.8% each. The other purposes like “To Work” and “To School” covered 16.4% and 13.8% respectively, while “Social” covered 7.5%.

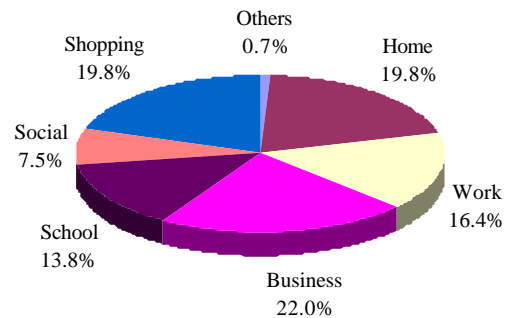


Figure A4.9.6 Parking Purpose

A4.10 INTER-REGIONAL TERMINAL PASSENGER INTERVIEW

A4.10.1 Design of the Survey

(1) Objective and Location

Inter-regional terminal passenger interview was carried out in order to figure out the response of the inter-regional terminal users in case where masstransit and/or regulation on para-transit operation would be introduced and their present means of feeder transport. To obtain the characteristics of inter-regional public transport passengers, this interview was conducted at major inter-regional public transport-mode-interchange-areas. They include the Ferry Port going to Akreiy Ksatr, the Railway Central Station, and Pochentong International Airport.

(2) Survey Item

To collect necessary data and information of inter-regional public transport terminal users, the interview form was designed to cover user's characteristics and their intention. Interview form is shown in Appendix and the survey results are summarized following sections by questionnaire items. Table A4.10.1 shows outline of the inter-regional terminal passenger interview.

Table A4.10.1 Outline of the Interview

No.	Survey Item	Contents
i.	Personal Attributes	- Gender & Age - Occupation & Sector - Driving License Hold - Place of Work / Study
ii.	Trip Descriptions	- Origin & Destination - Trip Purpose - Number of Sub Trips
	Criteria for Selection of Existing Mode	- Transport Mode - Waiting Time - Travel Time - Trip Cost / Expense - Reason
	Criteria for Selection of Proposed Mode	- Intention of Use - Expectation to the Service - Affordable Trip Cost - Acceptable Waiting Time

A4.10.2 Survey Output

(1) General Characteristics of Inter-Regional Public Transport Passengers

The general characteristics of inter-regional public transport passengers are tabulated in Table A4.10.2 (a) and summarized below.

- 48.8% of interviewees are male and the rest are female.
- Average age of interviewees is 36 years old and air-passengers are slightly older than those of other modes.
- Approximately half of ferry-users are workers/businessmen and one-fourth are housewives, while less than 10% are students; 67% of railway-users are workers/businessmen; 24% and 20% of air-passengers are public servants and housewives, respectively.
- 7.5% of ferry-users work in the industrial sector of government service, while 6.2% are involved in both construction and commerce sectors. About 26% of railway-users are engaged in agriculture.
- Only 13% to 15% of river-ferry and railway users possess a driving license(s), while 6.1% of air passengers are holding driving license(s).
- Average daily numbers of trips of ferry, rail and air passengers are 2.0 trips, 1.8 trips and 1.4 trips, respectively.
- Main purposes of trips are 'to home' (50.3%) and 'to work' (11.2%) for ferry passengers, 'to home' (28.4%) and 'business' (19.4%) for rail passengers, and 'to home' (37.5%) and 'to work' (17.9%) for air passengers.

(2) Characteristics of Feeder Trip Mode of Inter-Regional Public Transport Passengers

The characteristics of feeder trip mode of inter-regional public transport passengers are tabulated in Table A4.10.2 (b) and summarized below.

- a. Almost half of ferry-passengers (48% out of total) use motodop as main feeder trip mode, while 19% of them drive motorcycles. Meanwhile, 26% of them use passenger cars or pick-ups (including public transport modes, such as taxis and taxi-buses). Around 30% and 21% of railway-passengers use motodop and pickup as feeder trip modes, respectively. On the other hand, 43% and 37% of air-passengers use passenger cars and taxis as access modes to/from airport, respectively.
- b. Average waiting time and travel time for feeder trip modes of river-ferry, railway, and air transport passengers are less than 5 minutes (3.4 minutes) and 21 minutes, respectively.
- c. 76%, 36% and 84% of river ferry, railway and air transport passengers paid between 1,000 Riels and 1,500 Riels for the feeder trip cost, respectively.
- d. Reasons for selecting the feeder trip means by mode are as follows;
 - River ferry passengers: fast (32.3%), convenient (24.2%) and safe (24.2%),
 - Railway passengers: cheap (35.8%), fast (29.1%) and convenient (15.7%) and
 - Air passengers: safe (51.3%), convenient (17.9%) and fast (10.7%).

(3) Opinion Survey on Introduction of City Bus Service

- a. All of the interviewees answered 'I will use' in the case of introduction of city bus service.
- b. 32.9% and 22.4% of river ferry users expect "safety" and "fastness" for proposed city bus service, respectively.
- c. 72.0% of river ferry-users are willing to pay approximately 500 Riels for proposed bus service, while railway-users are willing to pay approximately 1,000 Riels. On the other hand, one-third of air passengers are willing to pay approximately 1,250 Riels for the bus service.
- d. 36.6% and 64.3% of ferry and air passengers will not wait more than 5 minutes at the bus stop for proposed bus services, while 31.3% of railway passengers will be able to wait between 5 to 10 minutes.

Table A4.10.2 (a) Inter-Regional Public Transport Passenger Interview Result
-- General Characteristics --

Items	Unit	Interview Place												Total	
		River Port				Railway				Airport					
		Coming In	Going Out	Total	%	Coming In	Going Out	Total	%	Coming In	Going Out	Total	%		
Number of samples:		48	113	161		76	58	134		56	168	224		519	
Sex		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
Male		27	41	68	42.2%	36	26	62	46.3%	35	87	122	54.5%	252	48.6%
Female		21	72	93	57.8%	40	32	72	53.7%	21	81	102	45.5%	267	51.4%
Age		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
- 19		10	9	19	11.8%	0	4	4	3.0%	0	9	9	4.0%	32	6.2%
20 - 29		8	24	32	19.9%	35	22	57	42.5%	9	20	29	12.9%	118	22.7%
30 - 39		15	29	44	27.3%	25	14	39	29.1%	22	39	61	27.2%	144	27.7%
40 - 49		12	22	34	21.1%	5	7	12	9.0%	20	41	61	27.2%	107	20.6%
50 - 59		2	17	19	11.8%	9	9	18	13.4%	4	31	35	15.6%	72	13.9%
60 -		1	12	13	8.1%	2	2	4	3.0%	1	28	29	12.9%	46	8.9%
Average Age	Years old	32	38	35		33	34	33.5		38	42	40		36.2	
Occupation		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
Freelance/Self Employee		7	17	24	14.9%	20	11	31	23.1%	5	16	21	9.4%	76	14.6%
Shop Clerk		4	20	24	14.9%	38	21	59	44.0%	6	15	21	9.4%	104	20.0%
Driver		0	0	0	0.0%	2	1	3	2.2%	0	0	0	0.0%	3	0.6%
Housewife		5	35	40	24.8%	5	7	12	9.0%	13	32	45	20.1%	97	18.7%
Student		7	8	15	9.3%	1	1	2	1.5%	3	15	18	8.0%	35	6.7%
Company Executive		0	3	3	1.9%	0	0	0	0.0%	6	3	9	4.0%	12	2.3%
Company Employee		2	8	10	6.2%	0	4	4	3.0%	8	25	33	14.7%	47	9.1%
Public Servant		13	7	20	12.4%	8	7	15	11.2%	13	41	54	24.1%	89	17.1%
Others		10	15	25	15.5%	2	6	8	6.0%	2	21	23	10.3%	56	10.8%
Sector		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
Agriculture		1	0	1	0.6%	22	13	35	26.1%	0	5	5	2.2%	41	7.9%
Mining		3	2	5	3.1%	10	6	16	11.9%	0	2	2	0.9%	23	4.4%
Industry		1	6	7	4.3%	13	7	20	14.9%	6	7	13	5.8%	40	7.7%
Construction		5	5	10	6.2%	11	2	13	9.7%	1	3	4	1.8%	27	5.2%
Transport		0	2	2	1.2%	2	3	5	3.7%	1	3	4	1.8%	11	2.1%
Government Service		3	9	12	7.5%	1	4	5	3.7%	10	20	30	13.4%	47	9.1%
Commerce		2	8	10	6.2%	9	4	13	9.7%	6	21	27	12.1%	50	9.6%
Finance/Insurance		2	1	3	1.9%	0	0	0	0.0%	4	5	9	4.0%	12	2.3%
Other Services		31	80	111	68.9%	8	19	27	20.1%	28	102	130	58.0%	268	51.6%
Driving License		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
Have		5	16	21	13.0%	12	8	20	14.9%	37	117	154	68.8%	195	37.6%
Do not have		43	97	140	87.0%	64	50	114	85.1%	19	51	70	31.3%	324	62.4%
Average No. of Trips per Day	Trips/day	2.1	1.9	2.0		1.6	2.0	1.8		1.2	1.6	1.4		1.7	
Trip Purpose		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519	100.0%
Home		15	67	82	50.9%	19	19	38	28.4%	15	69	84	37.5%	204	39.3%
Work		11	7	18	11.2%	12	12	24	17.9%	14	26	40	17.9%	82	15.8%
Business		8	9	17	10.6%	15	11	26	19.4%	15	13	28	12.5%	71	13.7%
School		3	2	5	3.1%	2	1	3	2.2%	3	10	13	5.8%	21	4.0%
Social		6	2	8	5.0%	8	3	11	8.2%	0	0	0	0.0%	19	3.7%
Shopping		0	1	1	0.6%	19	1	20	14.9%	0	1	1	0.4%	22	4.2%
Others		5	25	30	18.6%	1	11	12	9.0%	9	49	58	25.9%	100	19.3%

Source: Public Transport Passenger Interview Survey, JICA2000

Table A4.10.2 (b) Inter-Regional Public Transport Passenger Interview Result
 - Characteristics of Feeder Trip Mode -

Items	Unit	Interview Place												Total
		River Port			Railway			Airport			Total			
		Coming In	Going Out	Total	Coming In	Going Out	Total	Coming In	Going Out	Total				
Number of samples:		48	113	161	76	58	134	56	168	224	519	519	100.0%	
Sub-trip mode		48	113	161	76	58	134	56	168	224	519	519	100.0%	
Passenger Car		0	10	10	13	4	17	22	74	96	123	123	23.7%	
Taxi		0	8	8	12	4	16	29	53	82	106	106	20.4%	
Minibus/ Pass. Van		11	5	16	13	2	15	3	31	34	65	65	12.5%	
Pick-up/Cargo Van		3	5	8	24	4	28	0	7	7	43	43	8.3%	
Trucks/Trailer		0	0	0	0	2	2	0	1	1	3	3	0.6%	
Large Bus		0	0	0	0	0	0	0	0	0	0	0	0.0%	
Motorcycle		6	24	30	0	7	7	0	0	0	37	37	7.1%	
Motodop		25	52	77	11	29	40	2	1	3	120	120	23.1%	
Motonamo		0	3	3	1	3	4	0	0	0	7	7	1.3%	
Cyclo		3	0	3	0	1	1	0	0	0	4	4	0.8%	
Bicycle		0	0	0	0	1	1	0	0	0	1	1	0.2%	
Walk		0	6	6	2	1	3	0	1	1	10	10	1.9%	
Others		0	0	0	0	0	0	0	0	0	0	0	0.0%	
Average Waiting Time	Minute	4.8	2.5	3.65	4.7	2.9	3.8	2.5	2.8	2.65	3.4	3.4		
Average Travel Time	Minute	25.1	16.1	20.6	25.7	22.7	24.2	28.9	20.3	24.6	23.1	23.1		
Trip Cost/Expense		48	113	161	76	58	134	56	168	224	519	519	100.0%	
< 250		0	2	2	9	10	19	3	29	32	53	53	10.2%	
250 - 500		0	2	2	15	6	21	0	0	0	23	23	4.4%	
500 - 750		0	6	6	26	3	29	0	0	0	35	35	6.7%	
750 - 1,000		6	22	28	6	10	16	1	3	4	48	48	9.2%	
1,000 - 1,500		42	81	123	19	29	48	52	135	187	358	358	69.0%	
1,500 - 2,000		0	0	0	1	0	1	0	1	1	2	2	0.4%	
2,000 -		0	0	0	0	0	0	0	0	0	0	0	0.0%	
Why do you use this?		48	113	161	76	58	134	56	168	224	519	519	100.0%	
Convenient		11	28	39	12	9	21	1	39	40	100	100	19.3%	
Cheap		5	16	21	40	8	48	2	12	14	83	83	16.0%	
Fast		21	31	52	12	27	39	7	17	24	115	115	22.2%	
Safe		8	31	39	4	9	13	38	77	115	167	32.2%		
Luxury		0	0	0	0	1	2	2	3	5	7	7	1.3%	
Reliable		0	2	2	3	1	4	6	3	9	15	15	2.9%	
Weather		0	0	0	0	0	0	0	0	0	0	0	0.0%	
Luggages		3	4	7	4	3	7	0	11	11	25	25	4.8%	
Accompany		0	1	1	0	0	0	0	6	6	7	7	1.3%	
No particular reason		0	0	0	0	0	0	0	0	0	0	0	0.0%	

Source: Public Transport Passenger Interview Survey, JICA2000

Table A4.10.2 (c) Inter-Regional Public Transport Passenger Interview Result
 - Opinion Survey on Introduction of City Bus Service -

Items	Unit	Interview Place												Total
		River Port				Railway				Airport				
		Coming In	Going Out	Total	%	Coming In	Going Out	Total	%	Coming In	Going Out	Total	%	
Number of samples:		48	113	161		76	58	134		56	168	224		519
Will you use it?		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519
Yes		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519
No		0	0	0	0.0%	0	0	0	0.0%	0	0	0	0.0%	0
What do you expect?		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519
Convenient		6	18	24	14.9%	7	11	18	13.4%	11	35	46	20.5%	88
Cheap		13	10	23	14.3%	26	15	41	30.6%	1	8	9	4.0%	73
Fast		10	26	36	22.4%	17	13	30	22.4%	4	20	24	10.7%	90
Safe		9	44	53	32.9%	14	10	24	17.9%	26	65	91	40.6%	168
Luxury		7	5	12	7.5%	8	5	13	9.7%	7	8	15	6.7%	40
Reliable		3	2	5	3.1%	1	2	3	2.2%	7	19	26	11.6%	34
No idea		0	8	8	5.0%	3	2	5	3.7%	0	13	13	5.8%	26
How much can you pay?		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519
< 250		11	2	13	8.1%	11	6	17	12.7%	0	2	2	0.9%	32
250 - 500		20	38	58	36.0%	15	11	26	19.4%	0	31	31	13.8%	115
500 - 750		8	50	58	36.0%	21	16	37	27.6%	2	61	63	28.1%	158
750 - 1,000		1	23	24	14.9%	11	5	16	11.9%	12	35	47	21.0%	87
1,000 - 1,500		8	0	8	5.0%	14	17	31	23.1%	42	36	78	34.8%	117
1,500 - 2,000		0	0	0	0.0%	1	0	1	0.7%	0	0	0	0.0%	1
2,000 -		0	0	0	0.0%	0	0	0	0.0%	0	0	0	0.0%	0
No idea		0	0	0	0.0%	3	3	6	4.5%	0	3	3	1.3%	9
Why long can you wait?		48	113	161	100.0%	76	58	134	100.0%	56	168	224	100.0%	519
< 5		21	38	59	36.6%	8	6	14	10.4%	51	93	144	64.3%	217
5 - 10		13	32	45	28.0%	14	28	42	31.3%	2	21	23	10.3%	110
10 - 15		9	31	40	24.8%	12	21	33	24.6%	1	36	37	16.5%	110
15 - 20		1	10	11	6.8%	9	1	10	7.5%	2	15	17	7.6%	38
20 - 30		3	2	5	3.1%	26	0	26	19.4%	0	0	0	0.0%	31
30 -		1	0	1	0.6%	4	0	4	3.0%	0	0	0	0.0%	5
No idea		0	0	0	0.0%	3	2	5	3.7%	0	3	3	1.3%	8

Source: Public Transport Passenger Interview Survey, JICA2000

A4.11 BUS AND TAXI-BUS OWNER/DRIVER INTERVIEW

A4.11.1 Design of the Survey

(1) Objective and Location

Bus and taxi-bus owner/driver interview was carried out in order to figure out the response of the small-scale transport operators in case where masstransit and/or regulation on para-transit operation would be introduced and their present situations confronted. To obtain the characteristics of bus and taxi-bus owner/driver, this interview was conducted at five (5) major bus and taxi-bus terminals and owners office. Five (5) major bus and taxi-bus terminals were Central Market, Duem Kor Market, Olympic Market, Ou Ruessei Market, and Chbar Ampao Market.

(2) Survey Item

To collect necessary data and information of operators, the interview form was designed to cover operator's characteristics and their situation. Interview form is shown in Appendix and the survey results are summarized in following sections by questionnaire items. Table A4.11.1 shows outline of the bus and taxi-bus owner/driver interview.

Table A4.11.1 Outline of the Interview

Survey Item	Contents
Owner Only	- Number of Owned Vehicles - Number of Employees
Owner / Driver	- Nature of Business - Area / Route of Operation - Frequency of Operation - Average Number of Passenger - Charge and Cost - Problems for Operation - Future Plan

A4.11.2 Survey Output

The characteristics of taxi-bus operation are tabulated in Table A4.11.2 and summarized below, based on the interview survey of owners and drivers.

- a. 70% of total taxi-bus-owner respondents wanted to continue their business; on the other hand, more than 60% of total taxi-bus-driver respondents, excluding those who answered 'no idea', wanted to quit their jobs.
- b. 60% of total owner respondents have other primary businesses, while 90% of the total driver interviewees answered that being a taxi-bus driver is their primary job.
- c. Average monthly income and expenditure of taxi-bus owners and drivers are 2,080 thousand Riels and 1,220 thousand Riels, and 840 thousand Riels and 500 thousand Riels respectively.
- d. Average weekly working hours of drivers is 34 hours.
- e. Average daily number of trips, occupancy, average fare and average trip length of taxi-bus are 1.6 trips, 12.5 persons, 4,790 Riels and 58.8 km respectively.
- f. Main operating area of taxi-bus is outside of the city.
- g. Most serious problems faced by the owners and drivers are as follows:
 - Owners: not enough passengers (this means too many competitors)
 - Drivers: own health

Table A4.11.2 Result of Bus and Taxi-Bus Owners and Drivers Interview

Respondents: Taxi-Bus Owners		
Number of samples: 20		
Items	Unit	Figure
Continue or quit of this business		
Continue		70.0%
Quit		5.0%
No idea		25.0%
Average Business Experience	Years	3.35
Primary or Secondary Business		
Primary		40.0%
Secondary		60.0%
Average Monthly Income	Riels 000	2,080
Average Monthly Expenditure	Riels 000	1,220
Average No. of Drivers	Person	4.1
Average No. of Vehicles Owned	Vehicle	4.3
Average Used Year of the Vehicle	Year	3
Average Distance of Operation	Km	126
Usual Area of Operation		
Outside of the City		65.0%
Within the Suburb		30.0%
Within the CBD		5.0%
Encountered Problems		
Not Enough Passengers		30.6%
Too Many Operators		25.0%
Poor Pavement Condition		16.7%

Source: Bus/Taxi-Bus Driver Interview Survey, 2000

Respondents: Taxi-Bus Drivers		
Number of samples: 75		
Items	Unit	Figure
Continue or quit of this business		
Continue		29.3%
Quit		46.4%
No idea		25.3%
Average Age of Driver	Years	38.2
Average Business Experience	Year	5.0
Average No. of Family Members	Person	5.3
Primary or Secondary Business		
Primary		90.7%
Secondary		9.3%
Average Monthly Income	Riels 000	839
Average Monthly Expenditure	Riels 000	502
Average Working Days per Week	Days	4.0
Average Working Hours per Day	Hours	8.4
Average No. of Trips per Day	Trips	1.64
Average No. of Pax per Trip	Person	12.5
Average Fare per Pax per Trip	Riels	4,790
Average Trip Length	Km	58.6
Usual Area of Operation		
Outside of the City		86.6%
Within the Suburb		6.7%
Within the CBD		6.7%
Encountered Problems		
Own Health		33.3%
Not Enough Passengers		16.9%
Too Many Drivers		11.3%
Too Many Regulations		10.8%
Poor Pavement Condition		10.3%

Source: Bus/Taxi-Bus Driver Interview Survey, 2000

A4.12 BUS AND TAXI-BUS PASSENGER INTERVIEW

A4.12.1 Design of the Survey

(1) Objective and Location

Bus and taxi-bus passenger interview was carried out in order to figure out the response of the bus and taxi-bus users in case where masstransit and/or regulation on para-transit operation would be introduced and their present means of feeder transport. To obtain the characteristics of bus and taxi-bus passengers, this survey was conducted at five (5) major bus and taxi-bus terminals. These were Central Market, Duem Kor Market, Olympic Market, Ou Ruessei Market, and Chbar Ampao Market

(2) Survey Item

To collect necessary data and information of bus and taxi-bus users, the interview form was designed to cover user's characteristics and their intention. Interview form is shown in Appendix and the survey results are summarized following sections by questionnaire items. Table A4.12.1 shows outline of the bus and taxi-bus passenger interview.

Table A4.12.1 Outline of the Interview

#	Survey Item	Contents
i.	Personal Attributes	- Gender & Age - Occupation & Sector - Driving License Hold - Place of Work / Study
ii.	Trip Descriptions	- Origin & Destination - Trip Purpose - Number of Sub Trips
	Criteria for Selection of Existing Mode	- Transport Mode - Waiting Time - Travel Time - Trip Cost / Expense - Reason
	Criteria for Selection of Proposed Mode	- Intention of Use - Expectation to the Service - Affordable Trip Cost - Acceptable Waiting Time

A4.12.2 Survey Output

The general characteristics of bus and taxi-bus passengers and characteristics of their feeder trip mode are tabulated in Table A4.12.2 and summarized below.

(1) General characteristics of bus and taxi-bus passengers

- a. 45.5% of interviewees are "Male" and the rest are "Female."
- b. Average age of interviewees is 34 years old.
- c. Major occupations of interviewees are "Shop Clerk" with 32.3% share, followed by "Freelance/Self Employee" and "Housewife" with 18.3% and 14.3%, respectively.
- d. 14.2% of interviewees are engaged in "Agriculture," while 10.7% are involved in both "Construction and Transport."
- e. 23% of interviewees possess a driving license(s)
- f. Average number of daily trips of interviewees is 2.0 trips.
- g. Main purposes of the trips for interviewees are "To Home," "Shopping" and "To Work" with shares of 25.7%, 23.7%, and 22.7%, respectively.

(2) Characteristics of feeder trip mode of bus and taxi-bus passengers

- a. More than three-fourth of total interviewees uses "Motodop" as the main feeder trip mode, while 18% of them use "Cyclo." Meanwhile, 5% of them use "Motorumok."
- b. Average waiting time and travel time of bus and taxi-bus users for their feeder trip modes are 5 minutes and 21 minutes, respectively.
- c. Most of interviewees paid between 1,000 and 1,500 Riels for their feeder trip.
- d. Major reasons for selecting present feeder mode are "Convenience" with 24.2%, followed by

“Fastness” with 32.3%, and “Cheapness” with 20.3%.

(3) Opinion survey on introduction of city bus service

- a. 71% of interviewees answered “I will use” in the case of introduction of city bus service.
- b. 23% of them expect “Safety” for proposed bus service, and it is followed by “Cheapness” with 17%.
- c. 25% of them are willing to pay 1,000~1,500 Riels for the bus service.
- d. 53.3% of them answered that acceptable waiting time will be more than 5 minutes at the bus stop for the proposed bus service.

Table A4.12.2 Result of Bus and Taxi-Bus Passenger Interview

General Characteristics		Number of Samples	Percentage
Items			
Number of samples:		600	100.0%
Sex			
	Male	273	45.5%
	Female	327	54.5%
Age			
	- 19	27	4.5%
	20 - 29	198	33.0%
	30 - 39	197	32.8%
	40 - 49	108	18.0%
	50 - 59	55	9.2%
	60 -	15	2.5%
	Average Age (Years Old)	34	5.7%
Occupation			
	Freelance/Self Employee	110	18.3%
	Shop Clerk	194	32.3%
	Driver	64	10.7%
	Housewife	86	14.3%
	Student	36	6.0%
	Company Executive	20	3.3%
	Company Employee	37	6.2%
	Public Servant	28	4.7%
	Others	25	4.2%
Sector			
	Agriculture	85	14.2%
	Mining	58	9.7%
	Industry	59	9.8%
	Construction	64	10.7%
	Transport	64	10.7%
	Government Service	26	4.3%
	Commerce	26	4.3%
	Finance/Insurance	36	6.0%
	Other Services	182	30.3%
Driving License			
	Have	600	100.0%
	Do not have	137	22.8%
Average No. of Trips per Day		463	77.2%
Trips Purpose			
	Home	2.0	100.0%
	Home	154	25.7%
	Work	136	22.7%
	Business	83	13.8%
	School	35	5.8%
	Social	12	2.0%
	Shopping	142	23.7%
	Others	38	6.3%

Characteristics of Feeder Trip Mode		Number of Samples	Percentage
Items			
Number of samples:		600	100.0%
Sub-trip mode			
	Passenger Car	2	0.3%
	Taxi	0	0.0%
	Minibus/ Pass. Van	0	0.0%
	Pick-up/Cargo Van	2	0.3%
	Truck/Trailer	0	0.0%
	Large Bus	0	0.0%
	Motorcycle	0	0.0%
	Motodop	457	76.2%
	Motonomo	29	4.8%
	Cycle	110	18.3%
	Bicycle	0	0.0%
	Walk	0	0.0%
	Others	0	0.0%
Average Waiting Time (Minutes)		5.1	
Average Travel Time (Minutes)		21.2	
Trip Cost/Expense		600	100.0%
	- 250 riels	0	0.0%
	250 - 500	11	1.8%
	500 - 750	42	7.0%
	750 - 1,000	114	19.0%
	1,000 - 1,500	433	72.2%
	1,500 - 2,000	0	0.0%
	2,000 -	0	0.0%
Why do you use this?			
	Convenient	600	100.0%
	Cheap	156	26.0%
	Fast	122	20.3%
	Safe	154	25.7%
	Luxury	77	12.8%
	Reliable	24	4.0%
	Weather	47	7.8%
	Luggages	7	1.2%
	Accopyany	10	1.7%
	No particular reason	1	0.2%
		2	0.3%

Opinion Survey on Introduction of City Bus Service		Number of Samples	Percentage
Items			
Number of samples:		600	100.0%
Will you use it?			
	Yes	426	71.0%
	No	174	29.0%
What do you expect?			
	Convenient	42	7.0%
	Cheap	102	17.0%
	Fast	61	10.2%
	Safe	137	22.8%
	Luxury	25	4.2%
	Reliable	33	5.5%
	No idea	200	33.3%
How much can you pay?			
	- 250 riels	28	4.7%
	250 - 500	64	10.7%
	500 - 750	71	11.8%
	750 - 1,000	83	13.8%
	1,000 - 1,500	149	24.8%
	1,500 - 2,000	1	0.2%
	2,000 -	0	0.0%
	No idea	204	34.0%
Why long can you wait?			
	- 5 Minutes	600	100.0%
	5 - 10	320	53.3%
	10 - 15	87	14.5%
	15 - 20	17	2.8%
	20 - 30	2	0.3%
	30 -	0	0.0%
	No idea	0	0.0%
		174	29.0%

Source: Public Transport Passenger Interview Survey, JICA2000

A4.13 PARA-TRANSIT DRIVER INTERVIEW

A4.13.1 Design of the Survey

(1) Objective and Location

Para-transit driver interview was carried out in order to figure out the response of the para-transit drivers in case where masstransit and/or regulation on para-transit operation would be introduced and their present situations confronted. To obtain the characteristics of para-transit drivers, this interview was conducted at five (5) major bus and taxi-bus terminals. These were Central Market, Duem Kor Market, Olympic Market, Ou Ruessei Market, and Chbar Ampao Market.

(2) Survey Item

To collect necessary data and information of drivers, the interview form was designed to cover driver's characteristics and their situation. Interview form is shown in Appendix and the survey results are summarized following sections by questionnaire items. Table A4.13.1 shows outline of the bus and taxi-bus owner/driver interview.

Table A4.13.1 Outline of the Interview

Survey Item	Contents
Driver	- Nature of Job - Area / Route of Operation - Frequency of Operation - Average Number of Passenger - Charge and Cost - Problems for Operation - Future Plan

A4.13.2 Survey Output

The operational characteristics of para-transit drivers, obtained from the interview survey, is tabulated in Table A4.13.2 and summarized below:

- a. 60~75% of interviewed para-transit drivers, excluding those who answered 'no idea,' wanted to quit their jobs, if they could find other jobs, especially the motodop drivers.
- b. Average age, driver's experience, and average family size are approximately 35 years old, 4.5 (motodop) to 6.5 (cyclo) years, and 5 to 6 persons, respectively.
- c. Most of the interviewees (approximately 80%) are para-transit driver is their primary job. Remaining 20% are it is their secondary job.
- d. Average monthly fare income and expenditure of motodop, cyclo, and motorumok drivers are approximately 300 thousand Riels and 150 thousand Riels (monthly earnings is approximately US\$39), 200 thousand Riels and 100 thousand Riels (US\$26/month), and 400 thousand Riels and 200 thousand Riels (US\$52/month), respectively.
- e. Average weekly working hours is 40 to 50 hours. Motorumok drivers have the shortest among the three para-transit modes.
- f. Average daily number of trips and occupancy of motodop, cyclo, and motorumok are 9.5 trips with 1.4 persons, 8.7 trips with 1.6 persons, and 5.2 trips with 7.0 persons, respectively.
- g. Average trip length is 4.1 km by motodop, 1.8 km by cyclo and 21.1 km by motorumok.
- h. Main operating area of three modes are as follows:
 - Motodop: mainly in the CBD and partly suburban area and out of the city
 - Cyclo: mostly in the CBD and partly suburban area
 - Motorumok: only suburban area
- i. Most serious problems faced by the para-transit drivers are as follows:
 - Motodop: "Too Many Drivers" (scramble for passengers among motodop drivers)
 - Cyclo: "Not Enough Passengers"
 - Motorumok: "Accidents" because trunk roads in suburban area have only 2 lanes with opposite traffic

Table A4.13.2 Characteristics of Para-Transit Drivers

Items	Unit	Motodop	Cyclo	Motorumok
Number of Respondents:		450	50	25
Continuation of Business				
	Continue	23.6%	28.0%	28.0%
	Quit	64.9%	56.0%	60.0%
	No idea	11.5%	16.0%	12.0%
Average Age of Driver	Years Old	35.6	37.5	33.3
Average Business Experience	Year	4.5	6.5	4.8
Average Number of Family Members	Person	5.1	5.4	5.7
Nature of Business				
	Primary	80.9%	82.0%	80.0%
	Secondary	19.1%	18.0%	20.0%
Average Monthly Income	Thousand Riels	296	213	390
Average Monthly Expenditure	Thousand Riels	146	96	208
Average Working Days per Week	Days	5.7	5.8	5.0
Average Working Hours per Day	Hours	9.0	9.2	8.3
Average Number of Trips per Day	Trips	9.5	8.7	5.2
Average Number of Pax per Trip	Person	1.4	1.6	7.0
Average Fare per Pax per Trip	Riels	808	755	945
Average Trip Length	km	4.1	1.8	20.1
Usual Area of Operation				
	Outside of the City	12.4%	0.0%	0.0%
	Within the Suburb	11.9%	14.0%	100.0%
	Within the CBD	75.7%	86.0%	0.0%
Encountered Problems				
	Accident	12.2%	17.0%	24.4%
	Robbery	18.9%	8.5%	0.0%
	Poor Pavement Condition	10.2%	1.7%	4.9%
	Traffic Congestion	15.3%	8.5%	17.1%
	Too Many Regulations	2.9%	6.8%	12.2%
	Too Many Drivers	22.4%	5.1%	12.2%
	Not Enough Passengers	3.8%	33.9%	7.3%
	Too Expensive Cost	6.7%	10.2%	14.6%
	Not Enough Capacity	1.8%	0.0%	0.0%
	Health problems	5.8%	8.5%	7.3%

Source: Public Transport Owner/Driver Interview Survey, JICA2000

A4.14 PARA-TRANSIT PASSENGER INTERVIEW

A4.14.1 Design of Survey

(1) Objective and Location

Para-transit passenger interview was carried out in order to figure out the response of the para-transit users in case where masstransit and/or regulation on para-transit operation would be introduced and their present means of feeder transport. To obtain the characteristics of para-transit passengers, this survey was conducted at five (5) major transport facilities, such as bus and taxi-bus terminals. These were Central Market, Duem Kor Market, Olympic Market, Ou Ruessei Market, and Chbar Ampao Market.

(2) Survey Item

To collect necessary data and information of para-transit users, the interview form was designed to cover user's characteristics and their intention. Interview form is shown in Appendix and the survey results are summarized following sections by questionnaire items. Table A4.14.1 shows outline of the para-transit passenger interview.

Table A4.14.1 Outline of the Interview

No.	Survey Item	Contents
i.	Personal Attributes	- Gender & Age - Occupation & Sector - Driving License Hold - Place of Work / Study
ii.	Trip Descriptions	- Origin & Destination - Trip Purpose - Number of Sub Trips
	Criteria for Selection of Present Mode	- Transport Mode - Waiting Time - Travel Time - Trip Cost / Expense - Reason
	Criteria for Selection of Proposed Mode	- Intention of Use - Expectation to the Service - Affordable Trip Cost - Acceptable Waiting Time

A4.14.2 Survey Output

The general characteristics of para-transit passengers and characteristics of their trip mode are tabulated in Table A4.14.2 and summarized below.

(1) General characteristics of para-transit passengers

- a. Just half of interviewees are "Male" and "Female."
- b. Average age of interviewees is 34 years old.
- c. Major occupations of interviewees are "Shop Clerk" with 25% share, followed by "Housewife" with 14% and "Public Servant" with 13%.
- d. Major sector of interviewees are "Construction" with 11.2% share, followed by "Transport" with 10.7% and "Commerce" with 10.1%.
- e. 27.4% of interviewees possess driving license(s).
- f. Average number of daily trips of interviewees is 3.0 trips.
- g. Main purposes of the trips for interviewees are "To Work" with 27.7% share, followed by "Shopping" with 22.0% and "Business" with 20.1%.

(2) Characteristics of trip mode of para-transit passengers

- a. Almost 70% of interviewees use "Motodop" as the main trip mode, while 21% of them use "Cyclo." Meanwhile, about 5% of them use "Motorumok."
- b. Average waiting time and travel time of para-transit passengers for their trip are about 3 minutes and 20 minutes, respectively.

- c. Most of interviewees paid between 1,000 and 1,500 Riels for the trip.
- d. Major reasons for selecting the present mode are “Cheapness” with 26.1% share, followed by “Fastness” with 26.3% and “Convenience” with 20.0%.

(3) Opinion survey on introduction of city bus service

- a. 82% of interviewees answered “I will use” in the case of introduction of city bus service.
- b. 42% of them expect “Safety” for proposed bus service.
- c. 30% of them are willing to pay “500~750” Riels, meanwhile 20% will pay “750~1,000” Riels for proposed bus service.
- d. 61% of them answered that acceptable waiting time will be more than 5 minutes if the city bus service is introduced.

Table A4.14.2 Para-Transit Passenger Interview Survey Result

Opinion Survey on Introduction of City Bus Service		
Items	Number of Samples	Percentage
Number of samples: 900		
Will you use it?		
Yes	735	81.7%
No	165	18.3%
What do you expect?		
Convenient	30	3.3%
Cheap	67	7.4%
Fast	76	8.4%
Safe	378	42.0%
Luxury	68	7.6%
Reliable	78	8.7%
No idea	203	22.6%
How much can you pay?		
- 250 riels	14	1.6%
250 - 500	107	11.9%
500 - 750	272	30.2%
750 - 1,000	180	20.0%
1,000 - 1,500	118	13.1%
1,500 - 2,000	0	0.0%
2,000 -	0	0.0%
No idea	209	23.2%
Why long can you wait?		
- 5 Minutes	546	60.7%
5 - 10	155	17.2%
10 - 15	21	2.3%
15 - 20	9	1.0%
20 - 30	3	0.3%
30 -	1	0.1%
No idea	165	18.3%

Characteristics of Feeder Trip Mode		
Items	Number of Samples	Percentage
Number of samples: 900		
Trip mode		
Passenger Car	3	0.3%
Taxi	14	1.6%
Minibus/ Pass. Van	0	0.0%
Pick-up/Cargo Van	2	0.2%
Truck/Trailer	0	0.0%
Large Bus	0	0.0%
Motorcycle	2	0.2%
Mototop	626	69.6%
Motomimo	41	4.6%
Cyclo	188	20.9%
Bicycle	1	0.1%
Walk	4	0.4%
Others	19	2.1%
Average Waiting Time (Minutes)		
Average Travel Time (Minutes)	2.8	
Trip Cost/Expense		
- 250 riels	25	2.8%
250 - 500	7	0.8%
500 - 750	67	7.4%
750 - 1,000	215	23.9%
1,000 - 1,500	586	65.1%
1,500 - 2,000	0	0.0%
2,000 -	0	0.0%
Why do you use this?		
Convenient	180	20.0%
Cheap	242	26.9%
Fast	237	26.3%
Safe	84	9.3%
Luxury	9	1.0%
Reliable	34	3.8%
Weather	33	3.7%
Luggages	74	8.2%
Accompany	7	0.8%
No particular reason	0	0.0%

General Characteristics		
Items	Number of Samples	Percentage
Number of samples: 900		
Sex		
Male	450	50.0%
Female	450	50.0%
Age		
- 19	55	6.1%
20 - 29	308	34.2%
30 - 39	285	31.7%
40 - 49	171	19.0%
50 - 59	70	7.8%
60 -	11	1.2%
Average Age (Years Old)	34	
Occupation		
Freelance/Self Employee	116	12.9%
Shop Clerk	224	24.9%
Driver	77	8.6%
Housewife	125	13.9%
Student	101	11.2%
Company Executive	66	7.3%
Company Employee	60	6.7%
Public Servant	117	13.0%
Others	14	1.6%
Sector		
Agriculture	87	9.7%
Mining	28	3.1%
Industry	82	9.1%
Construction	101	11.2%
Transport	96	10.7%
Government Service	59	6.6%
Commerce	91	10.1%
Finance/Insurance	54	6.0%
Other Services	302	33.6%
Driving License		
Have	247	27.4%
Do not have	653	72.6%
Average No. of Trips per Day		
Trip Purpose	900	100.0%
Home	111	12.3%
Work	249	27.7%
Business	181	20.1%
School	85	9.4%
Social	21	2.3%
Shopping	198	22.0%
Others	55	6.1%

Source: Public Transport Passenger Interview Survey, JICA2000