

The Project on the Revision and Updating of the Strategic Transport Plan for Dhaka

FINAL REPORT / Technical Appendix



November 2016

ALMEC Corporation
Oriental Consultants Global, Co., Ltd.
Katahira & Engineers International

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Japan International Cooperation Agency (JICA)

Dhaka Transport Coordination Authority (DTCA)

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Transport Plan for Dhaka**

**TECHNICAL APPENDIX
Final Report**

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ABBREVIATIONS

ADB	Asian Development Bank
AFD	Agence Francaise de Developpement
BBA	Bangladesh Bridge Authority
BIWTA	Bangladesh Inland Water Transport Authority
BIWTC	Bangladesh Inland Water Transport Corporation
BR	Bangladesh Railway
BRT	Bus Rapid Transit
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BUET	Bangladesh University of Technology
C&B	Construction & Building
CASE	Clean Air and Sustainable Environment
CNG	Compressed Natural Gas
DAP	Detail Area Plan
DCC	Dhaka City Corporation
DF/R	Draft Final Report
DFID	Department for International Development
DHUTS	Dhaka Urban Transportation Network Development Study
DMA	Dhaka Metropolitan Area
DMDP	Dhaka Metropolitan Development Plan
DMP	Dhaka Metropolitan Police
DMTA	Dhaka Metropolitan Transport Authority
DMTC	Dhaka Mass Transit Company
DNCC	Dhaka North City Corporation
DPP	Department of Printing and Publications
DRTM	Directorate of Road Transport Maintenance
DSCC	Dhaka South City Corporation
DTCA	Dhaka Transport Coordination Authority
DTCB	Dhaka Transport Coordination Board
ECNEC	Executive Committee of the National Economic Council
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
F/R	Final Report
FIRR	Financial Internal Rate of Return
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GIBR	Government Inspector of the Bangladesh Railways
GOB	Government of Bangladesh
GOJ	Government of Japan
GPS	Global Positioning System
HIS	Household Interview Survey
IC/R	Inception Report
IT/R	Interim Report
JICA	Japan International Cooperation Agency
LDC	Least Developed Country
LGD	Local Government Division

LGED	Local Government Engineering Department
MOC	Ministry of Communication
MOHPW	Ministry of Housing and Public Works
MOR	Ministry of Railways
MRT	Mass Rapid Transit
NGO	Non-Governmental Organizations
OD	Origin and Destination
ODA	Official Development Assistance
PPPO	Public Private Partnership Office
PT	Project Team
RAJUK	Rajdhani Unnayan Karttripakkha
RD	Record of Discussions
RHD	Road and Highway Department
RTC	Regional Transport Committee
SC	Steering Committee
SEA	Strategic Environmental Assessment
SPA	Survey and Plan Area
STP	Strategic Transport Plan for Dhaka
TDM	Traffic Demand Management
TOR	Terms of Reference
UMRT	Urban Mass Rapid Transit
WB	World Bank
WG	Working Group

Traffic Survey

1. INTRODUCTION

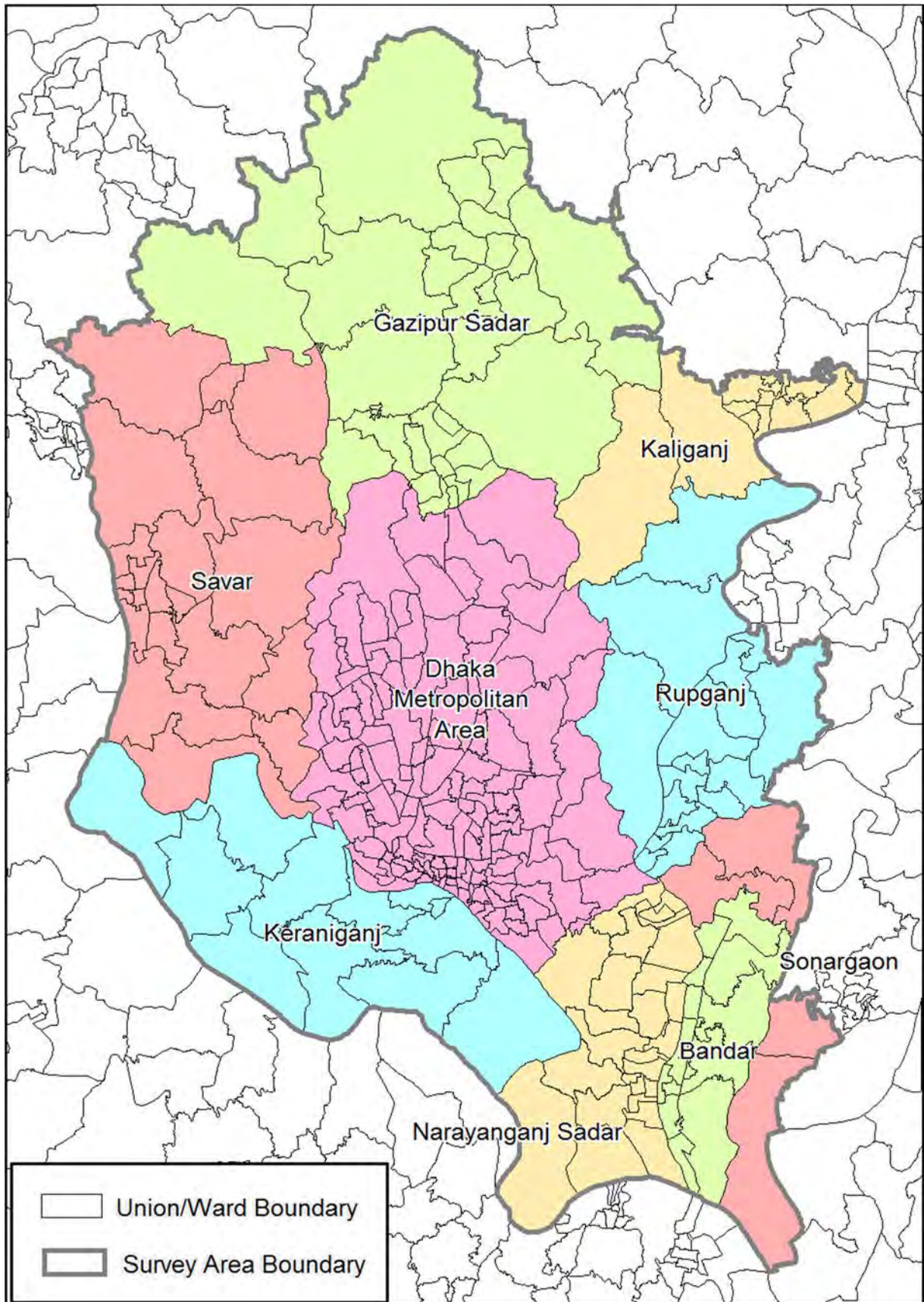
The study conducts four traffic surveys, namely; the Household Interview Survey, the Cordon Line Survey, the Screen Line Survey and the Public Transportation Users' Opinion Survey. Although DHUTS earlier conducted similar traffic surveys, it would not be appropriate to develop database for this study by just updating DHUTS survey data with some supplemental surveys due to a larger survey area, newly developed areas and a growing economy and population.

Objectives of the four traffic surveys are as follows:

- The Household Interview Survey (HIS) aims to obtain family and personal socio-economic data and actual trip records. The results will be utilized for the analysis of current travel behaviors of people in order to develop traffic demand models and to forecast future traffic demand. Both the Cordon Line Survey and the Screen Line Survey are necessary to calibrate the HIS data obtained.
- The Cordon Line Survey aims to determine trips to/from the Survey Area made by the residents living inside and outside the Survey Area and to calibrate the distributed traffic volume obtained from the HIS. Required data are gathered through surveys conducted at the boundary of the Survey Area and public transportation terminals (i.e., airport terminals, bus terminals, ferry terminals and railway stations).
- The Screen Line Survey aims to provide vehicular and passenger traffic volume in order to calibrate the distributed traffic volume obtained from the HIS. Required data are obtained through surveys conducted at road sections across an imaginary "Screen Line" dividing the Survey Area into northern and southern parts.
- The Public Transportation Users' Opinion Survey aims to gather passenger's trip information, willingness to pay for saving travel time, perception on existing public transport services. A further survey is done on personal socio-economic characteristics in order to evaluate existing public transport services and to estimate the value of time.

The Survey Area for the traffic survey cannot be exactly the same as RAJUK's jurisdiction as a matter of practical convenience since the population data is officially available by union or ward. It has been determined to cover the entire Survey Area which is shown in Figure 1.1.

Table 1.1 shows the actual survey timeline. All traffic surveys have been finalized by January 2015.



Source: JICA Study Team

Figure 1.1 Survey Area

Table 1.1 Traffic Survey Timeline

Survey Item	Aug	September					October					November				December				January			
	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11		
Household Interview Survey		■	■	■	■	■	Eid al-Adha	■	■		Big Hartar	■									▲		
Screen Line Survey	■	■	■	■		▲																	
Public Transport Users' Opinion Survey				■	■				▲														
Cordon Line Survey (Inner Cordon)					■									■	■	■		▲					
Cordon Line Survey (Outer Cordon)									■	■				■						▲			
Cordon Line Survey (Terminals)														■	■			■		▲			

Legend: ■ Survey ▲ Data Finalization

Source: JICA Study Team

2. HOUSEHOLD INTERVIEW SURVEY (HIS)

2.1 Survey Method

The HIS is an interview survey conducted by visiting target households and interview the respective household heads and every household member according to the prepared survey forms.

The respondent households are randomly selected at field in all designated unions and wards in the Survey Area. Samples from each union/ward are taken from at least three different streets and the first house to be surveyed is randomly selected with succeeding samples to be selected based on the density of the area.

The survey is conducted from 9 AM to 6 PM on Mondays to Fridays while the survey on Saturdays is only for call-back or revisit to households previously visited but whose information is not complete. The survey collects actual trip records on the day before the survey date and thus trips made on weekdays (i.e., Sundays to Thursdays) are interviewed.

After filling out survey forms in the field, guided by zone code tables, a numerical code is assigned to each area representing a respondent's residence, work place, school, trip origin, trip destination and transfer point.

2.2 Survey Items

In order to keep consistency with the data collected in DHUTS, survey forms were prepared based on information used in DHUTS HIS as shown in Annex. Survey items had been reduced to minimize respondents' load if the question apparently has no connection to transport planning. The survey forms include items as listed below.

- Form 1 Household Information: This questionnaire covers household's contact information, residential location, real estate ownership, payment of the house and electricity, etc.
- Form 2 Household Member Information: This questionnaire covers the socio-economic characteristics of each household member. These include gender, age, possession of driver's license, occupation, employment sector, work and/or school address, monthly personal income, etc.
- Form 3 Household Vehicle Information: This questionnaire is about the number of vehicles owned by the household and whose household member frequently used the vehicle.
- Form 4 Trip Records: This questionnaire covers the characteristics of weekday trips made by each household member. These include trip origin and destination, departure and arrival times, trip purpose, trip cost, travel mode, and transfer points.

The survey is conducted among all household members in each respondent household. Forms 1, 2 and 3 are to be answered by the household head or his/her representatives while Form 4 is for each household member if he or she is 10 years old or above.

2.3 Survey Coverage

The HIS covers only 192 out of 271 unions and wards in the Survey Area since the rest has already been surveyed in DHUTS¹. Target households are selected from each of 192 unions

¹Although DHUTS covered the whole area of DCC North and South, the HIS under DHUTS was found to have missed 15 wards and have collected a few samples in 10 wards due to unknown reasons. The HIS under this Study complements those wards. The 192 zones include them.

and wards². The survey targets a total of 16,000 sample households and this number is distributed to each union/ward in proportion to the census population in 2011.

The number of households and persons actually sampled, and the sampling rate by upazila is shown in Table 2.1.

Table 2.1 Number of Sampled Households/Persons and the Sampling Rate by Upazila

Upazila	Number of Target Unions/Wards	Census Population (2011)	Number of Sampled Households	Number of Sampled Persons	Actual Sampling Rate (%)
Dhaka Metropolitan Area	61 (140)*	3,715,171 (8,906,039)*	5,960	24,750	0.67
Gazipur Sadar	29	1,659,792	2,657	11,085	0.67
Savar	21	1,296,687	2,113	8,435	0.65
Keraniganj	12	794,360	1,293	5,674	0.71
Narayanganj Sadar	25	1,323,600	2,165	9,022	0.68
Bandar	14	312,841	507	2,077	0.66
Sonargaon	4	167,888	274	1,080	0.64
Rupganj	15	451,392	730	3,272	0.72
Kaliganj	11	109,939	198	851	0.77
Total	192 (271)*	9,831,670 (15,022,538)*	15,897	66,246	0.67

Note *: Figures in parentheses include unions and wards surveyed in DHUTS as well.

Source: JICA Study Team

2.4 Survey Results

Expansion factors are assigned to each collected record according to population by union/ward projected by the Study Team. The expansion factors are also adjusted according to Bangladesh's official statistics on the population composition by gender and age and on registered vehicles. Trip records are furthermore adjusted with the number of trips observed in the Screen Line Survey.

²Those 192 zones also include Cantonment in Dhaka, Gazipur and Savar but the survey was not allowed in those three areas for security concerns. The following analyzes do not cover those three zones due to the lack of present data.

3. CORDON LINE SURVEY

3.1 Survey Method

The Cordon Line Survey covers several kinds of survey stations and the survey method varies depending on the survey station type. The survey stations roughly fall into two types; roadsides and public transport terminals. Survey forms are shown in Annex.

(1) Roadside Surveys

In any roadside survey station, vehicular traffic volume is taken in every 30 minutes by vehicle type and direction. Depending on the survey station, another kind of survey will be simultaneously conducted alongside with the vehicular traffic count survey.

At DMA's boundary ("Inner Cordon Line" stations; IC01 to IC11 in Table 3.1), the number of occupants on vehicles chosen at random is taken and recorded. This survey is also done by vehicle type and direction for every 30 minutes. Moreover, the vehicle occupancy survey at the most congested road sections is ensured of a minimum 10% sample rate which is based on 16-hr (6 AM to 10 PM) vehicular traffic volume by vehicle type and direction.

At the Survey Area's boundary ("Outer Cordon Line" stations; OC01 to OC13 in Table 3.1), the OD interview survey is simultaneously conducted to gather trip information from randomly selected private vehicle drivers, public transport passengers and truck drivers. The minimum sample rate for the OD interview is 25% for buses and 10% for the other vehicle types. The sample rate is based on the 24-hour vehicular traffic volume by vehicle type and direction.

For the roadside surveys, vehicles are classified as follows;

- Bicycle
- Motorcycle
- Rickshaw
- CNG/Mishuk/Auto
- Car
- Taxi
- Auto tempo/Laguna/Maxi
- Microbus/Jeep
- Minibus/Bus
- AC Bus
- Staff Bus
- School Van
- School/College/University Bus
- 3-Axle Truck/ Trailer
- Tanker/Tank Lorry
- Medium Truck/2-Axle Truck
- Pick-up/Small Van
- Others (including ambulance, fire engine, towing car, construction vehicle, armored car, animal-driven cart etc.).

(2) Terminal Surveys

Survey at airport terminals is done by counting departing passengers entering the departure gate for every 30 minutes. While an OD interview survey is simultaneously conducted to at least 20% of randomly selected departing passengers.

Survey at bus terminals is done by conducting an OD interview survey to at least 1,500 randomly selected departing passengers in every survey station. No passenger count surveys are performed at bus terminals.

Survey at ferry terminals is done by taking the number of departing passengers aboard each ferry or boat, departure time and destination. An OD interview survey is simultaneously conducted to at least 20% of randomly selected ferry's departing passengers.

Survey at railway stations is done by taking the number of departing passengers aboard each train, departure time and destination. An OD interview survey is simultaneously conducted to at least 20% of randomly selected train's departing passengers.

3.2 Survey Coverage

DMA's boundary has 11 "IC" roadside survey stations and there are 13 "OC" survey stations for the roadside at the Survey Area's boundary. There are also 2 survey stations at Hazrat Shahjalal International Airport, 3 survey stations at bus terminals, 2 survey stations at ferry terminals including their surrounding areas and 4 survey stations at railway stations. All survey stations are listed in Table 3.1 with their corresponding survey duration while their locations are shown in Figure 3.1 and Figure 3.2. Actual latitude and longitude of the roadside survey stations are shown in Table 3.2.

For the roadside survey sites within the Inner Cordon Line, a 24-hour vehicle count survey, which starts from 6 AM to 6 AM the following day and a 16-hour vehicle occupancy survey, which starts from 6 AM to 10 PM, are conducted at all stations.

As for the roadside survey sites within the Outer Cordon Line, a 24-hour vehicle count and OD interview surveys are conducted at all stations. There are no constraints on the starting time as long as the surveys are conducted for 24 hours.

Passenger count and OD interview surveys are conducted in public transport terminals/stations excluding bus terminals where the passenger count survey is not required. Basically, survey period is 24 hours however in case of terminal that is not a 24-hour operation, the survey period adjusts as per the terminal's operating hours. Consequently, only departing passengers are counted and interviewed in these terminals.

Surveys are conducted on the days of Monday, Tuesday or Wednesday excluding holiday or a day with special festivities as well as during bad weather condition.

Table 3.1 Cordon Line Survey Stations and Survey Periods

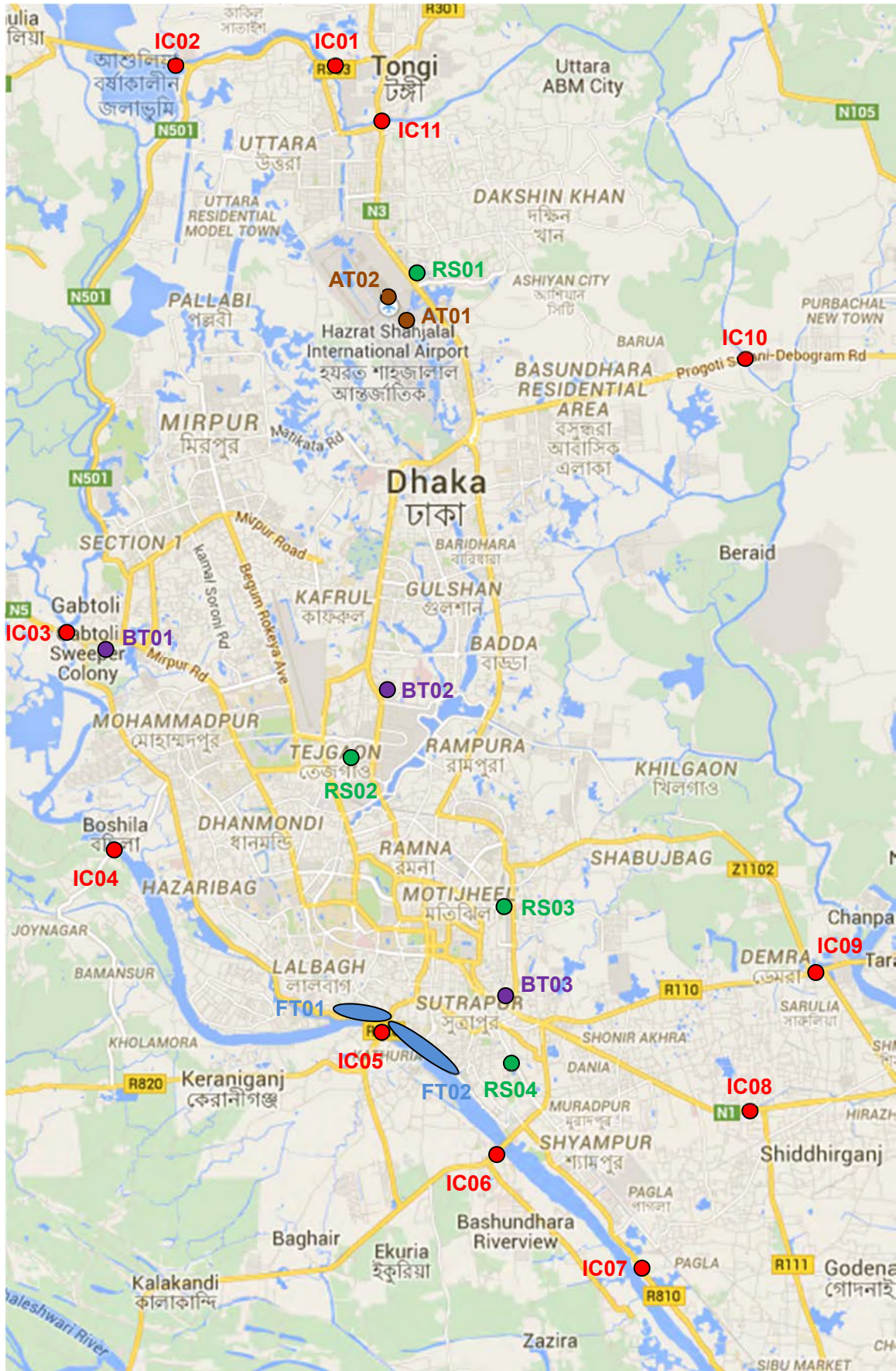
Seq.	Category	Code	Survey Station		Survey Period (hours)		
					Traffic Count	OD Interview	Vehicle Occupancy
1	Roadside	IC01	Tongi Bypass Road	Boundary of DMA	24	-	16
2		IC02	Tongi-Ashulia-Zerabo-EPZ Road	Boundary of DMA	24	-	16
3		IC03	Dhaka-Aricha Highway	Boundary of DMA	24	-	16
4		IC04	Third Buriganga Bridge	Boundary of DMA	24	-	16
5		IC05	Second Buriganga Bridge	Boundary of DMA	24	-	16
6		IC06	First Buriganga Bridge	Boundary of DMA	24	-	16
7		IC07	Dhaka-Narayanganj Highway	Boundary of DMA	24	-	16
8		IC08	Dhaka-Chittagong Highway	Boundary of DMA	24	-	16
9		IC09	Dhaka-Demra Highway	Boundary of DMA	24	-	16
10		IC10	Purbachal Express Highway	Boundary of DMA	24	-	16
11		IC11	Tongi Bridge	Boundary of DMA	24	-	16
12	Roadside	OC01	Joydevpur-Tangail Highway	Bundary of the Survey Area	24	24	-
13		OC02	Nabinagar-Chandra Road	Bundary of the Survey Area	24	24	-
14		OC03	Dhaka-Aricha Highway	Bundary of the Survey Area	24	24	-
15		OC04	Savar-Manikganj Highway	Bundary of the Survey Area	24	24	-
16		OC05	Tulsikhali Bridge	Bundary of the Survey Area	24	24	-
17		OC06	Dhaka-Mawa Highway	Bundary of the Survey Area	24	24	-
18		OC07	Muktarpur Bridge	Bundary of the Survey Area	24	24	-
19		OC08	Dhaka-Chittagong Highway	Bundary of the Survey Area	24	24	-
20		OC09	Araihazar-Narsingdi Highway	Bundary of the Survey Area	24	24	-
21		OC10	Bhulta-Nabinagar-Radhika Road	Bundary of the Survey Area	24	24	-
22		OC11	Dhaka Sylhet Highway	Bundary of the Survey Area	24	24	-
23		OC12	Tongi-Ghorashal Highway	Bundary of the Survey Area	24	24	-
24		OC13	Dhaka - Mymensingh Highway	Bundary of the Survey Area	24	24	-
25	Airport Terminal	AT01	Hazrat Shahjalal International Airport Domestic Terminal		24	24	-
26		AT02	Hazrat Shahjalal International Airport International Terminal		14.5	14.5	-
27	Bus Terminal	BT01	Gabtoli		-	16	-
28		BT02	Mohakhali		-	16	-
29		BT03	Sayedabad		-	16	-
30	Ferry Terminal	FT01	Showari Ghat, Midford Ghat and surrounding areas		24	24	-
31		FT02	Sadar Ghat, Badmtoli Boat Terminal and surrounding areas		24	24	-
32	Railway Station	RS01	Airport		24	24	-
33		RS02	Tejgaon		24	24	-
34		RS03	Kamalapur		24	24	-
35		RS04	Gandaria		24	24	-

Source: JICA Study Team



Source: JICA Study Team

Figure 3.1 Locations of Survey Stations (Outer Cordon Line Stations)



Source: JICA Study Team

Figure 3.2 Locations of Survey Stations (Inner Cordon Line Stations and Terminals)

Table 3.2 Actual Location and Survey Date and Time of the Cordon Line Survey

Seq.	Code	Survey Station	Latitude and Longitude	Date of Start	Time Started	Time Completed
1	IC01	Tongi Bypass Road	23° 53' 30.0" N 90° 23' 23.0" E	September 24, 2014	6:00 AM	6:00 AM the following day
2	IC02	Tongi-Ashulia-Zerabo-EPZ Road	23° 53' 32.6" N 90° 21' 39.2" E	September 24, 2014	6:00 AM	6:00 AM the following day
3	IC03	Dhaka-Aricha Highway	23° 47' 03.6" N 90° 20' 07.0" E	November 19, 2014	6:00 AM	6:00 AM the following day
4	IC04	Third Buriganga Bridge	23° 44' 36.3" N 90° 20' 45.4" E	November 13, 2014	6:00 AM	6:00 AM the following day
5	IC05	Second Buriganga Bridge	23° 42' 35.9" N 90° 24' 08.5" E	November 24, 2014	6:00 AM	6:00 AM the following day
6	IC06	First Buriganga Bridge	23° 41' 18.6" N 90° 25' 42.5" E	November 24, 2014	6:00 AM	6:00 AM the following day
7	IC07	Dhaka-Narayanganj Highway	23° 39' 35.9" N 90° 27' 28.2" E	November 13, 2014	6:00 AM	6:00 AM the following day
8	IC08	Dhaka-Chittagong Highway	23° 41' 36.8" N 90° 28' 45.1" E	November 25, 2014	6:00 AM	6:00 AM the following day
9	IC09	Dhaka-Demra Highway	23° 43' 11.3" N 90° 29' 25.9" E	November 25, 2014	6:00 AM	6:00 AM the following day
10	IC10	Purbachal Express Highway	23° 50' 12.7" N 90° 28' 37.7" E	November 13, 2014	6:00 AM	6:00 AM the following day
11	IC11	Tongi Bridge	23° 52' 54.8" N 90° 24' 03.0" E	November 19, 2014	6:00 AM	6:00 AM the following day
12	OC01	Joydevpur-Tangail Highway	24° 01' 10.2" N 90° 17' 58.2" E	October 21, 2014	6:00 AM	6:00 AM the following day
13	OC02	Nabinagar-Chandra Road	23° 59' 46.0" N 90° 15' 16.4" E	October 22, 2014	6:00 AM	6:00 AM the following day
14	OC03	Dhaka-Aricha Highway	23° 54' 38.9" N 90° 13' 41.8" E	October 20, 2014	6:00 AM	6:00 AM the following day
15	OC04	Savar-Manikganj Highway	23° 47' 54.5" N 90° 14' 47.6" E	October 21, 2014	6:00 AM	6:00 AM the following day
16	OC05	Tulsikhali Bridge	23° 40' 00.3" N 90° 16' 58.4" E	October 22, 2014	6:00 AM	6:00 AM the following day
17	OC06	Dhaka-Mawa Highway	23° 37' 55.9" N 90° 20' 40.6" E	October 27, 2014	6:00 AM	6:00 AM the following day
18	OC07	Muktarpur Bridge	23° 34' 39.5" N 90° 30' 46.2" E	October 28, 2014	6:00 AM	6:00 AM the following day
19	OC08	Dhaka-Chittagong Highway	23° 37' 01.1" N 90° 36' 35.4" E	October 29, 2014	6:00 AM	6:00 AM the following day
20	OC09	Araihazar-Narsingdi Highway	23° 43' 54.5" N 90° 35' 17.7" E	October 27, 2014	6:00 AM	6:00 AM the following day
21	OC10	Bhulta-Nabinagar-Radhika Road	23° 47' 05.8" N 90° 35' 29.0" E	October 28, 2014	6:00 AM	6:00 AM the following day
22	OC11	Dhaka Sylhet Highway	23° 49' 08.7" N 90° 35' 58.5" E	October 29, 2014	6:00 AM	6:00 AM the following day
23	OC12	Tongi-Ghorashal Highway	23° 56' 19.1" N 90° 37' 29.9" E	November 13, 2014	6:00 AM	6:00 AM the following day
24	OC13	Dhaka-Mymensingh Highway	24° 03' 21.7" N 90° 23' 17.2" E	October 20, 2014	6:00 AM	6:00 AM the following day

Source: JICA Study Team

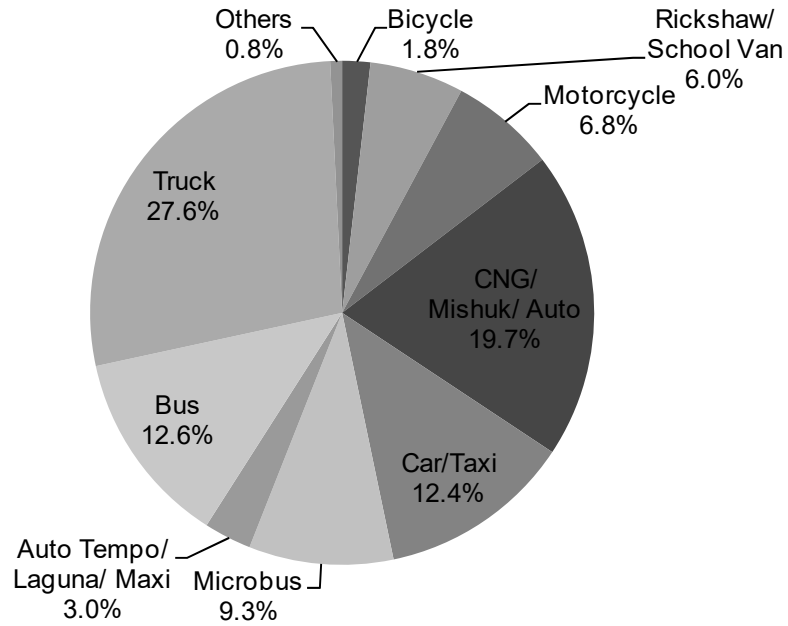
Continued – Actual Location and Survey Date and Time of the Cordon Line Survey

Seq.	Code	Survey Station	Latitude and Longitude	Date of Start	Time Started	Time Completed
25	AT01	Hazrat Shahjalal International Airport Domestic Terminal	-	December 1, 2014	6:00 AM	6:00 AM the following day
26	AT02	Hazrat Shahjalal International Airport International Terminal	-	December 1, 2014	6:00 AM	8:30 PM
27	BT01	Gabtolli Bus Terminal	-	November 12, 2014	6:00 AM	10:00 PM
28	BT02	Mohakhali Bus Terminal	-	November 10, 2014	6:00 AM	10:00 PM
29	BT03	Sayedabad Bus Terminal	-	November 11, 2014	6:00 AM	10:00 PM
30	FT01	Showari Ghat, Midford Ghat and surrounding areas	-	November 18, 2014	6:00 AM	6:00 AM the following day
31	FT02	Sadar Ghat, Badmtoli Boat Terminal and surrounding areas	-	November 17, 2014	6:00 AM	6:00 AM the following day
32	RS01	Airport Railway Station	-	November 10, 2014	6:00 AM	6:00 AM the following day
33	RS02	Tejgaon Railway Station	-	November 18, 2014	6:00 AM	6:00 AM the following day
34	RS03	Kamalapur Railway Station	-	November 11, 2014	6:00 AM	6:00 AM the following day
35	RS04	Gandaria Railway Station	-	November 12, 2014	6:00 AM	6:00 AM the following day

Source: JICA Study Team

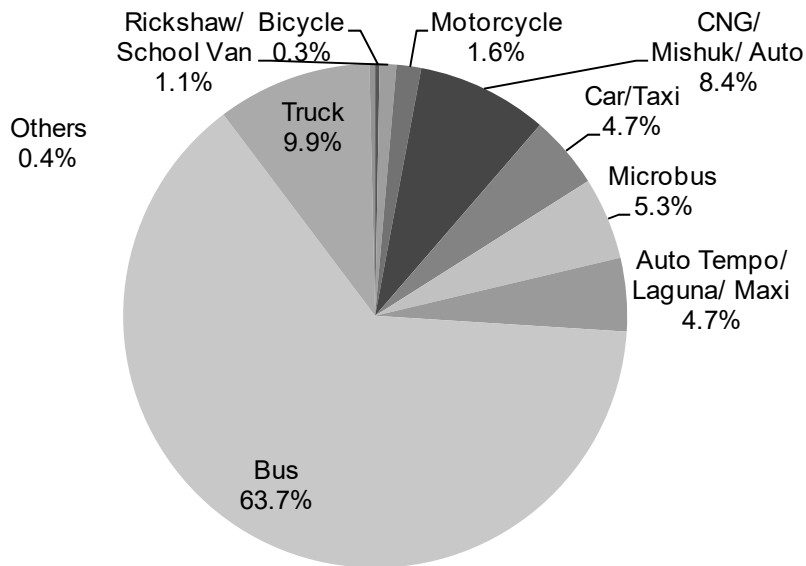
3.3 Results of the Inner Cordon Line Survey

Observed daily traffic volumes across the Inner Cordon Line were 257 thousand vehicles and 1,882 thousand passenger trips except walk, railway and boat trips. Figure 3.3 and Figure 3.4 illustrate observed modal shares based on vehicular and passenger volumes. The result shows public transportation modes (i.e., bus, laguna, microbus, CNG and rickshaw) account for more than 80% of the traffic between Dhaka Metropolitan Area and its adjoining areas and in particular buses dominate those public modes. Vehicular traffic volume and average vehicle occupancy are shown in Table 3.3 and Table 3.4.



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.3 Modal Share of the Vehicular Traffic across the Inner Cordon Line



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.4 Modal Share of the Passenger Trips across the Inner Cordon Line

Table 3.3 Daily Vehicular Traffic Volume at the Inner Cordon Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles				Motorized Vehicles																Grand Total
	Bicycle	Rickshaw	School Van	Total	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/ Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others	Total	
IC01	449	2,087	0	2,536	838	2,010	3,184	19	7	1,909	747	2	61	85	363	29	3,757	3,463	123	16,597	19,133
IC02	108	132	10	250	1,575	1,935	5,817	0	1,168	4,260	3,364	87	64	8	1,519	164	5,422	5,642	323	31,348	31,598
IC03	315	1,032	23	1,370	2,149	1,647	4,370	45	1,224	2,869	6,131	313	258	65	101	118	6,163	3,655	212	29,320	30,690
IC04	784	402	10	1,196	1,606	7,243	879	3	49	537	68	0	0	1	3	0	366	637	45	11,437	12,633
IC05	608	2,812	4	3,424	1,556	11,025	1,156	54	1,967	1,024	2,335	40	10	14	10	15	1,904	2,674	140	23,924	27,348
IC06	796	1,741	0	2,537	2,096	11,644	846	6	119	652	687	5	4	0	36	31	1,993	1,087	73	19,279	21,816
IC07	213	2,111	0	2,324	541	2,453	291	1	132	331	1,026	0	18	5	137	223	3,106	1,020	67	9,351	11,675
IC08	218	1,126	6	1,350	2,427	5,910	5,273	20	202	3,283	6,318	309	79	36	688	480	5,169	3,601	225	34,020	35,370
IC09	309	2,097	0	2,406	1,399	3,419	1,779	21	2,914	1,114	1,463	47	52	49	277	97	3,753	2,393	144	18,921	21,327
IC10	60	8	0	68	550	487	1,430	1	7	1,321	0	0	5	0	19	40	161	510	27	4,558	4,626
IC11	770	1,923	16	2,709	2,633	2,903	6,437	259	33	6,547	8,173	152	145	75	472	259	3,241	6,252	574	38,155	40,864
Total	4,630	15,471	69	20,170	17,370	50,676	31,462	429	7,822	23,847	30,312	955	696	338	3,625	1,456	35,035	30,934	1,953	236,910	257,080

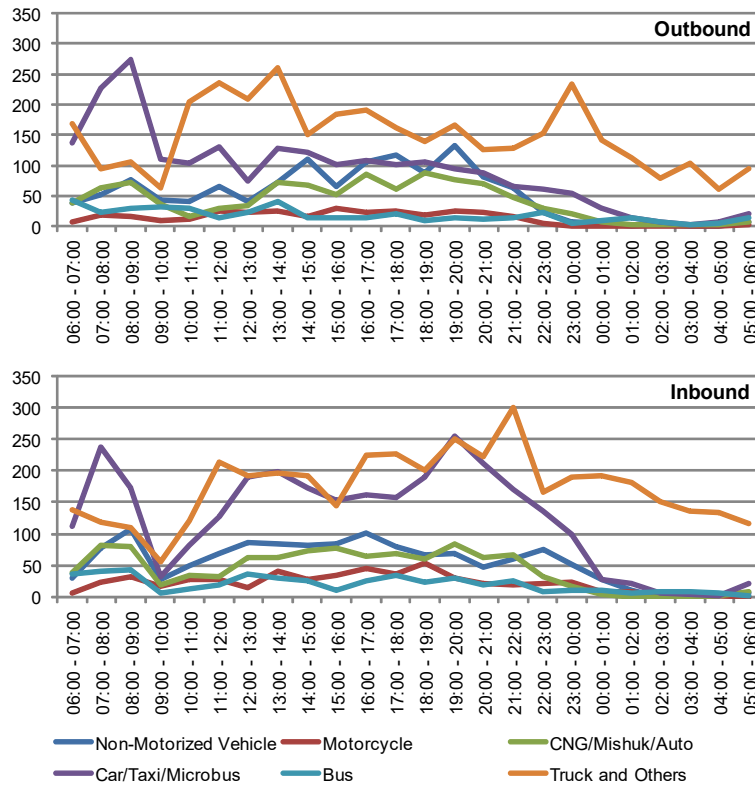
Source: Cordon Line Survey 2014, JICA Study Team

Table 3.4 Average Vehicle Occupancy at the Inner Cordon Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles			Motorized Vehicles														
	Bicycle	Rickshaw	School Van	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others
IC01	1.23	2.53	-	1.72	4.16	2.66	3.58	3.67	4.59	30.35	35.00	25.10	24.55	2.40	2.07	3.10	2.65	2.27
IC02	1.00	2.16	1.00	1.52	2.99	2.67	-	14.29	4.29	44.23	30.61	25.82	12.50	2.32	1.87	2.16	2.27	2.78
IC03	1.03	2.15	7.33	1.46	2.97	3.01	3.15	10.11	6.44	39.01	41.79	19.19	30.08	2.53	2.26	3.02	2.27	4.11
IC04	1.07	2.09	3.50	1.70	5.03	2.75	3.67	7.64	4.78	4.13	-	-	7.00	-	-	3.10	2.16	3.10
IC05	1.10	2.26	3.50	1.76	4.58	2.63	3.38	13.27	5.38	41.00	49.68	25.75	36.33	-	2.60	3.17	2.21	4.19
IC06	1.07	2.02	-	1.84	4.38	3.01	2.80	6.07	4.30	39.82	26.80	26.00	-	2.33	2.11	2.63	2.68	3.61
IC07	1.14	2.45	-	1.85	4.69	2.88	-	8.38	5.35	39.09	11.00	26.45	45.00	2.47	2.43	2.79	2.66	3.03
IC08	1.04	2.09	6.50	1.64	3.56	2.81	3.00	9.60	4.79	36.83	33.99	28.32	25.95	2.09	2.06	2.74	2.48	3.66
IC09	1.04	2.39	-	1.84	2.82	2.25	2.71	12.52	6.46	31.58	28.00	23.14	26.08	2.58	2.26	2.67	2.44	3.27
IC10	1.00	2.33	-	1.82	3.18	3.24	2.00	5.67	6.26	-	-	13.75	-	2.00	2.18	2.18	2.20	2.80
IC11	1.33	2.34	3.44	1.78	2.71	2.75	2.96	8.00	5.14	39.04	26.52	20.21	32.32	2.29	2.29	3.12	3.04	3.89
Average	1.12	2.29	5.12	1.70	4.07	2.77	3.10	12.31	5.21	38.62	35.53	22.61	27.22	2.36	2.18	2.75	2.52	3.39

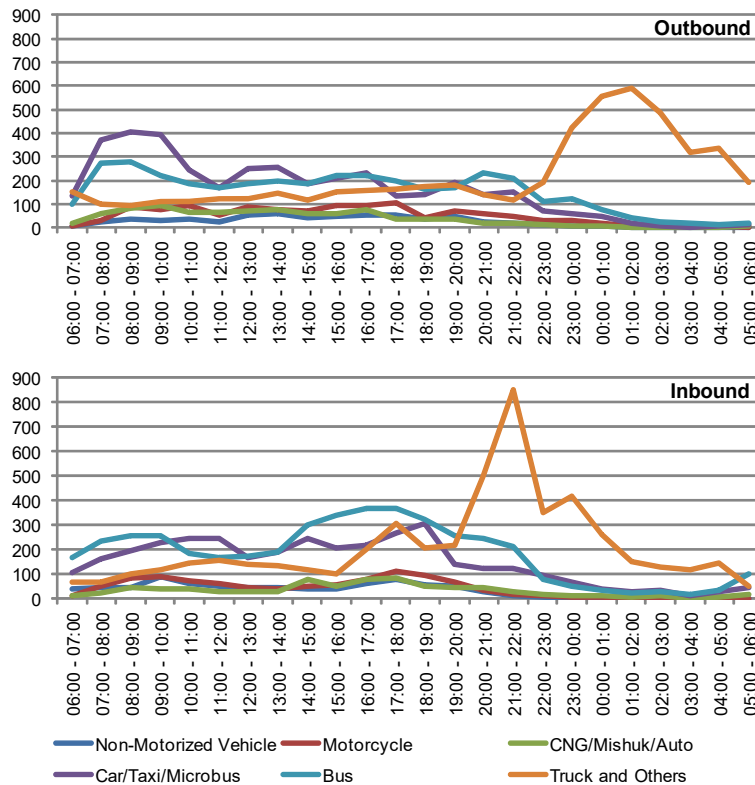
Note: Figures include drivers and conductors as well. Dashes ("-") indicate no samples were observed.

Source: Cordon Line Survey 2014, JICA Study Team



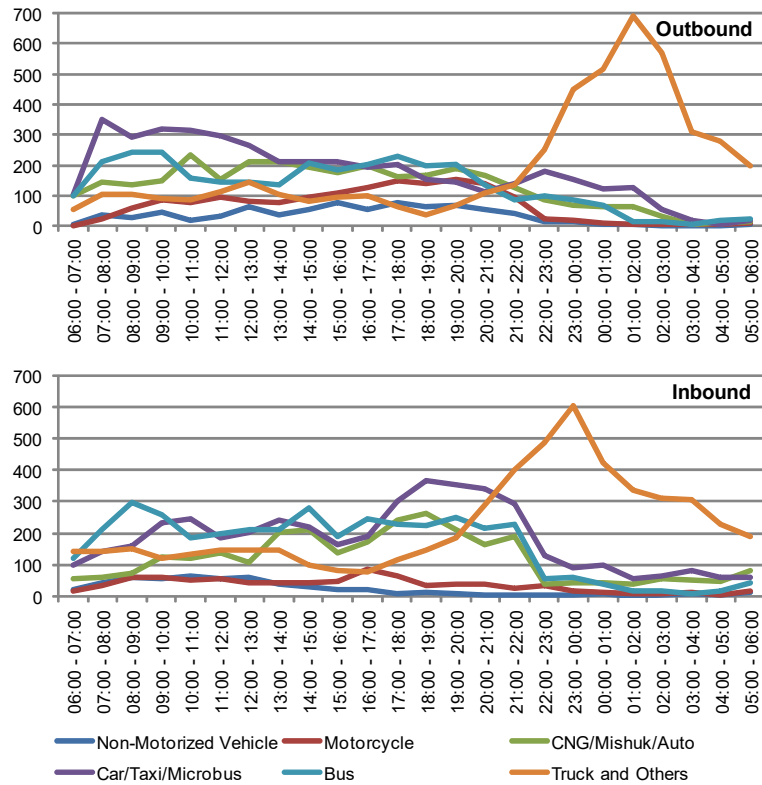
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.5 Hourly Vehicular Traffic Volume at Tongi Bypass Road (Station IC01)



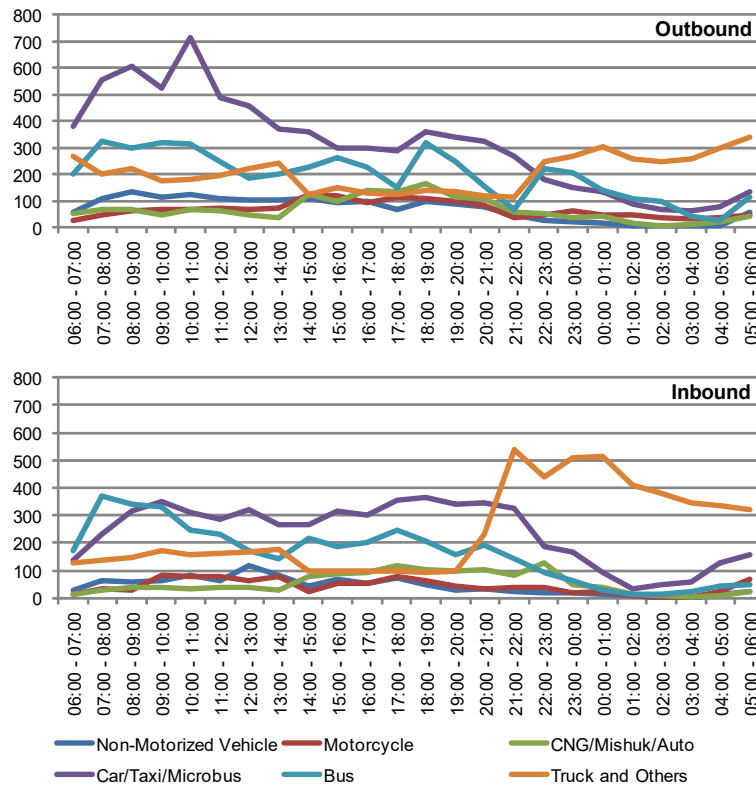
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.6 Hourly Vehicular Traffic Volume at Dhaka-Aricha Highway (Station IC03)



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.7 Hourly Vehicular Traffic Volume at Dhaka-Chittagong Highway (Station IC08)



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.8 Hourly Vehicular Traffic Volume at Tongi Bridge (Station IC11)

Figure 3.5 to Figure 3.8 show hourly vehicular traffic volumes by vehicle type in four busiest roads. In the Figures, the 18 vehicle types are aggregated into the following 6 categories for convenience:

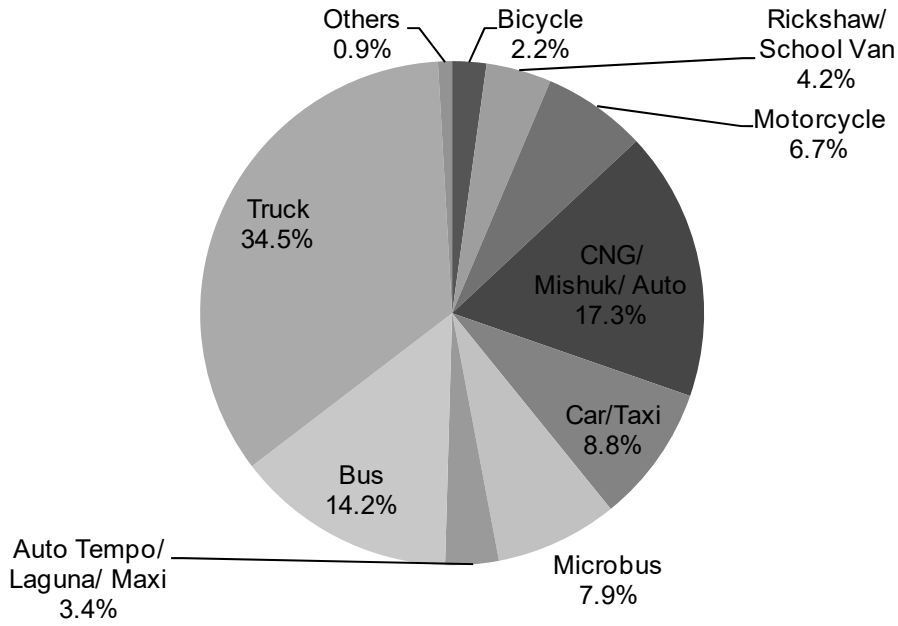
- Non-Motorized Vehicle: Bicycle, Rickshaw and School Van;
- Motorcycle: Motorcycle;
- CNG/Mishuk/Auto: CNG/Mishuk/Auto;
- Car/Taxi/Microbus: Car, Taxi, and Microbus/Jeep;
- Bus: Auto Tempo/Laguna/Maxi, Bus/Minibus, AC Bus, Staff Bus, and School/Collage/University Bus; and
- Truck and Others: 3-axle Truck/Trailer, Tanker/Tank Lorry, 2-axle Truck, Pick-up/Small Van, and Others.

While the time variability of the traffic volume looks low, outbound and inbound traffic tend to have peaks in the morning and in the evening, respectively. Those results suggest the inter-city traffic has a measurable share at the Inner Cordon Line. The prominent peaks of trucks after 9 PM show the heavy trucks and open trucks wait for the truck ban in the DMA to be lifted every night.

3.4 Results of the Outer Cordon Line Survey

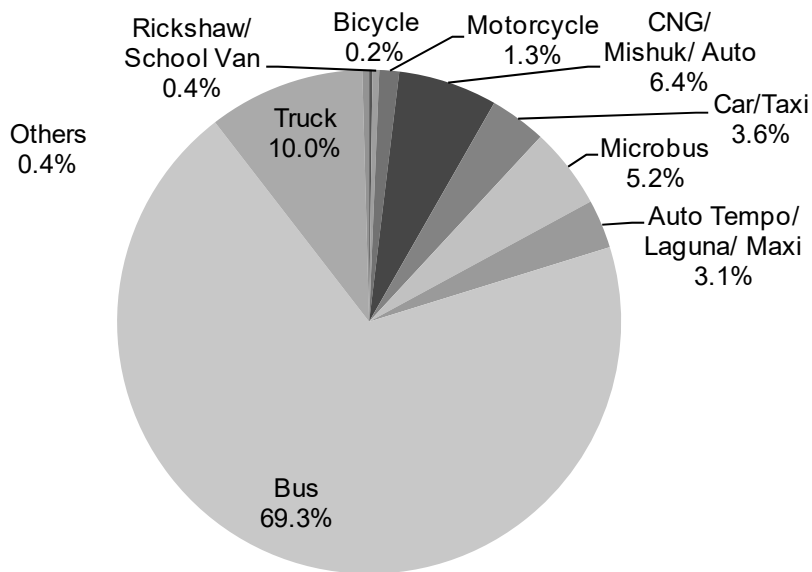
As for the roadside traffic count surveys, observed daily traffic volumes were 123 thousand vehicles and 916 thousand passenger trips. Figure 3.9 and Figure 3.10 illustrate observed modal shares based on vehicular and passenger volumes. The result shows public transportation modes have a share of 85% which is higher than that at the Inner Cordon Line. Vehicular traffic volume and average vehicle occupancy are shown in Table 3.5 and Table 3.6.

Figure 3.11 to Figure 3.14 show hourly vehicular traffic volumes by vehicle type in four busiest roads. In the Figures, the 18 vehicle types are aggregated into the 6 categories as described above.



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.9 Modal Share of the Vehicular Traffic across the Outer Cordon Line



Note: The data includes trips from the Survey Area to the external areas and vice versa (e.g., internal-to-external and external-to-internal trips) only.

Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.10 Modal Share of the Passenger Trips across the Outer Cordon Line

Table 3.5 Daily Vehicular Traffic Volume at the Outer Cordon Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles				Motorized Vehicles																Grand Total
	Bicycle	Rickshaw	School Van	Total	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/ Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others	Total	
OC01	487	1,027	0	1,514	846	848	888	14	932	740	1,314	8	6	0	129	68	4,059	1,344	17	11,213	12,727
OC02	470	288	0	758	836	667	1,076	24	30	1,139	2,199	15	31	19	39	53	2,170	1,463	52	9,813	10,571
OC03	264	1,122	2	1,388	983	970	1,209	20	775	844	3,492	96	38	42	258	118	3,757	1,389	383	14,374	15,762
OC04	124	419	0	543	899	1,753	566	14	46	256	203	0	1	0	6	2	517	326	42	4,631	5,174
OC05	49	141	0	190	685	1,701	449	20	58	181	305	0	0	0	9	3	179	263	41	3,894	4,084
OC06	49	334	0	383	589	1,457	951	13	45	748	2,073	44	8	4	49	60	1,287	945	72	8,345	8,728
OC07	147	18	0	165	627	3,541	364	11	108	391	209	0	1	0	17	9	782	565	30	6,655	6,820
OC08	15	0	0	15	171	1,126	1,712	10	3	1,832	2,555	260	2	2	661	183	5,693	1,546	240	15,996	16,011
OC09	61	209	5	275	169	2,230	126	19	387	133	218	0	19	0	13	6	191	309	24	3,844	4,119
OC10	377	589	0	966	443	2,953	210	0	45	224	85	0	43	0	1	6	314	234	11	4,569	5,535
OC11	233	483	0	716	489	1,310	790	8	516	671	1,073	27	9	4	71	35	1,524	1,166	35	7,728	8,444
OC12	252	312	0	564	678	1,573	1,140	0	145	1,307	1,352	34	0	0	216	176	2,812	1,714	73	11,220	11,784
OC13	159	179	0	338	777	1,071	1,185	22	1,118	1,171	1,547	15	31	0	163	137	3,075	2,192	83	12,587	12,925
Total	2,687	5,121	7	7,815	8,192	21,200	10,666	175	4,208	9,637	16,625	499	189	71	1,632	856	26,360	13,456	1,103	114,869	122,684

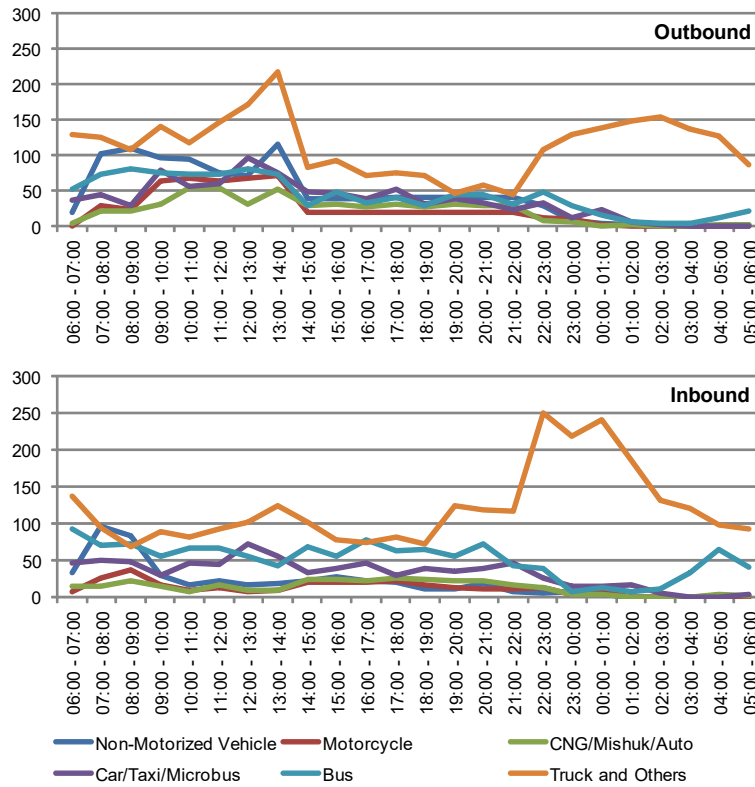
Source: Cordon Line Survey 2014, JICA Study Team

Table 3.6 Average Vehicle Occupancy at the Outer Cordon Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles			Motorized Vehicles														
	Bicycle	Rickshaw	School Van	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others
OC01	1.06	2.31	-	1.79	3.35	2.98	4.20	13.04	6.13	40.27	47.00	29.00	-	2.57	2.44	2.31	2.64	4.65
OC02	1.11	2.65	-	1.78	3.07	3.05	4.62	5.09	6.79	40.96	-	24.23	25.74	2.47	2.23	2.58	2.65	4.44
OC03	1.10	2.23	-	1.72	3.66	3.04	3.74	9.84	5.21	37.06	36.31	33.68	21.67	2.91	2.77	3.37	2.77	3.83
OC04	1.04	2.23	-	1.68	4.24	3.59	3.00	5.63	4.72	40.67	-	-	-	2.83	2.00	3.03	2.81	2.93
OC05	1.36	2.22	-	2.00	4.14	3.46	-	10.98	5.62	45.54	-	-	-	2.00	2.00	3.10	2.22	4.55
OC06	1.13	2.30	-	1.92	4.04	3.48	3.00	9.93	6.56	42.30	50.29	23.25	10.25	2.17	3.58	2.40	2.34	3.36
OC07	1.06	2.38	-	1.69	4.55	2.98	-	8.94	5.41	36.76	-	-	-	3.40	2.00	2.31	2.78	3.00
OC08	1.76	-	-	1.68	3.55	3.53	3.90	8.00	6.60	42.32	43.13	-	10.00	2.48	2.57	2.27	2.48	4.20
OC09	1.09	2.26	7.00	1.82	4.72	3.94	3.90	7.79	6.44	31.35	-	25.67	-	1.53	2.67	3.13	2.52	4.56
OC10	1.19	2.39	-	1.33	4.55	3.81	-	7.31	7.40	26.38	-	39.65	-	-	2.00	3.14	2.83	5.27
OC11	1.04	2.52	-	2.02	4.08	3.57	2.69	9.70	5.57	37.75	40.18	27.22	23.54	2.51	2.57	2.53	2.57	3.64
OC12	1.07	2.63	-	1.67	3.13	3.37	-	10.58	5.56	36.16	48.47	-	-	2.64	2.24	2.53	2.30	3.33
OC13	1.09	2.30	-	1.62	3.29	3.25	3.00	11.59	6.67	32.95	35.00	14.07	-	2.82	2.86	3.10	2.61	4.30
Average	1.10	2.33	7.00	1.75	4.12	3.32	3.65	10.65	6.15	38.98	42.42	29.37	22.01	2.61	2.60	2.65	2.56	3.94

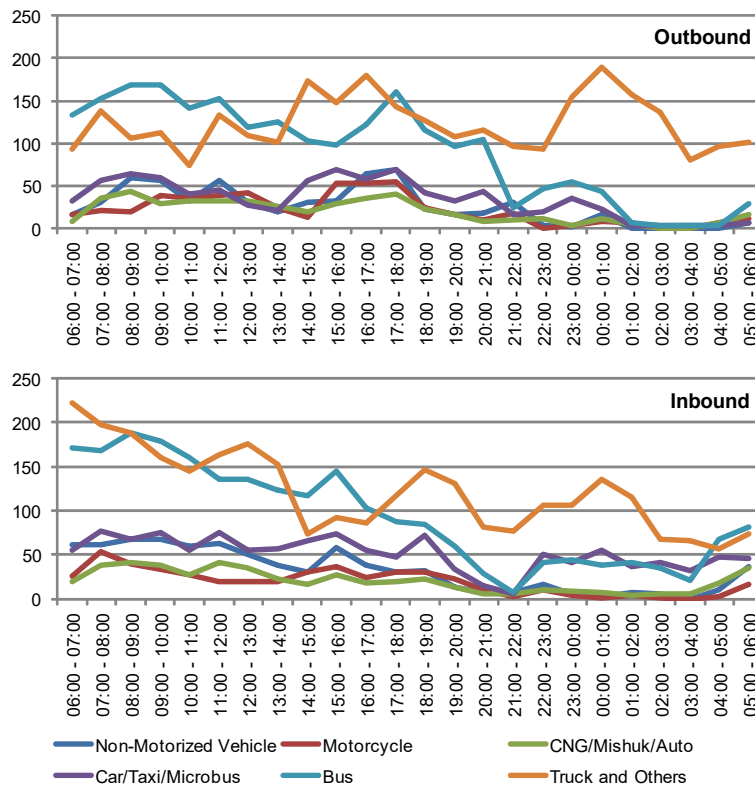
Note: Figures include drivers and conductors as well. Dashes ("-") indicate no samples were observed.

Source: Cordon Line Survey 2014, JICA Study Team



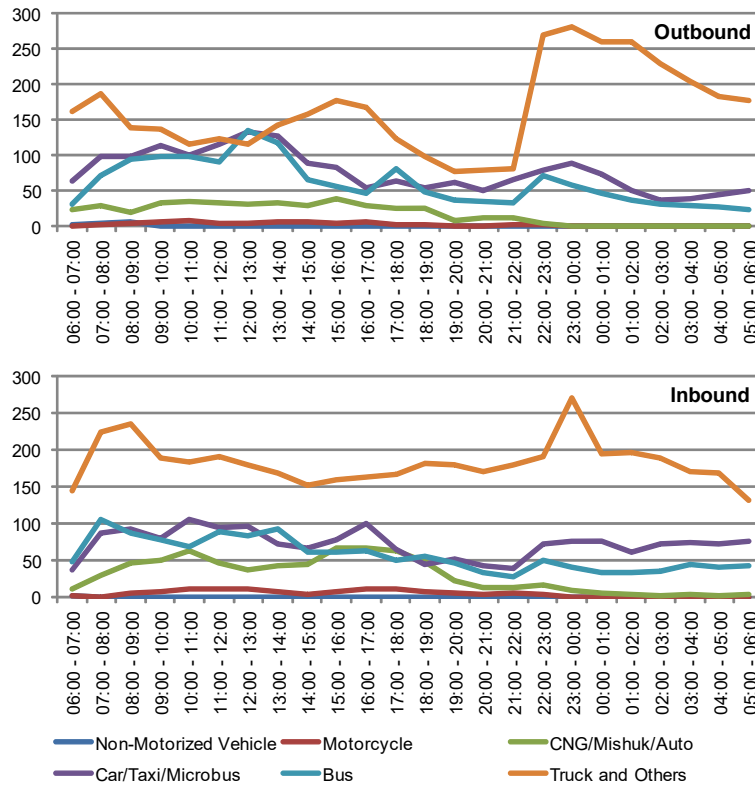
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.11 Hourly Vehicular Traffic Volume at Joydevpur-Tangail Highway (Station OC01)



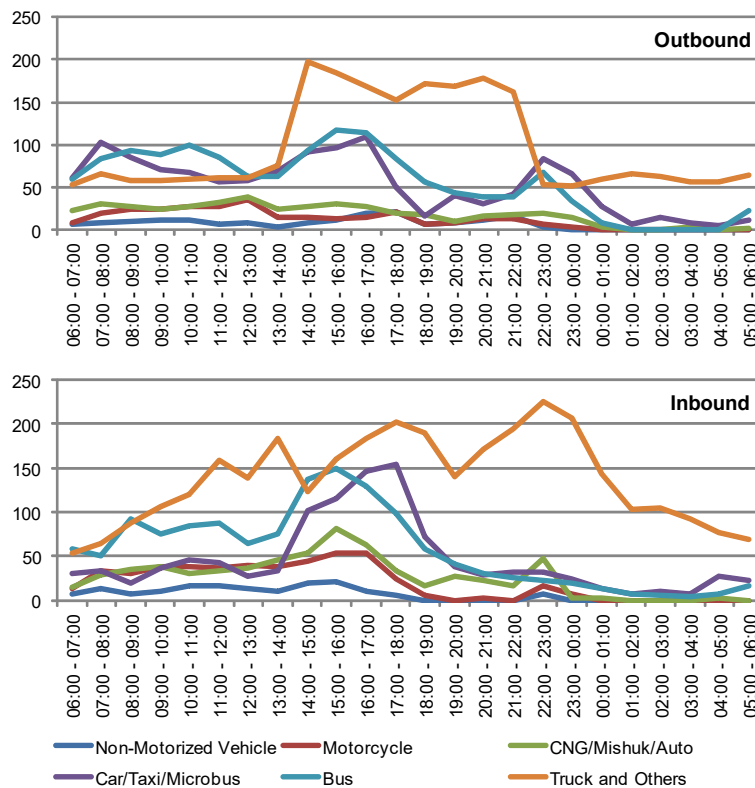
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.12 Hourly Vehicular Traffic Volume at Dhaka-Aricha Highway (Station OC03)



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.13 Hourly Vehicular Traffic Volume at Dhaka-Chittagong Highway (Station OC08)



Source: Cordon Line Survey 2014, JICA Study Team

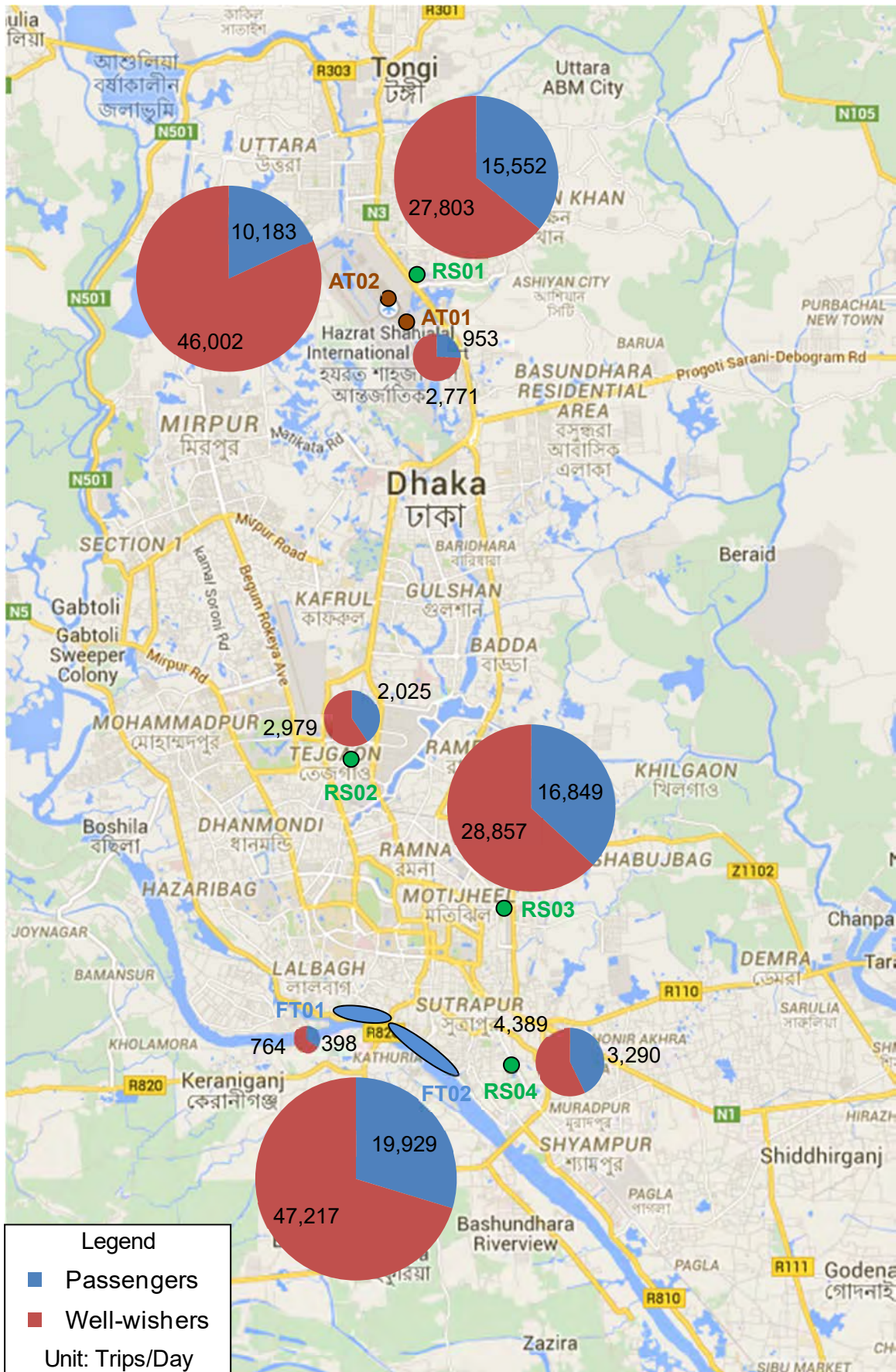
Figure 3.14 Hourly Vehicular Traffic Volume at Dhaka-Mymensingh Highway (Station OC13)

Figure 3.15 and Figure 3.16 show the trip attraction and the modal share of the terminal

access by survey location, respectively. The International Terminal of the Airport, Sadar Ghat, Airport Railway Station and Kamalapur Railway Station have the biggest attractions of passengers and well-wishers. Although it is noteworthy that the public transportation is dominant in the terminal access except the Domestic Terminal of the Airport, the attraction of vehicles causes the road congestion around the terminals and poses safety risks of boarding and alighting passengers in front of the terminals.

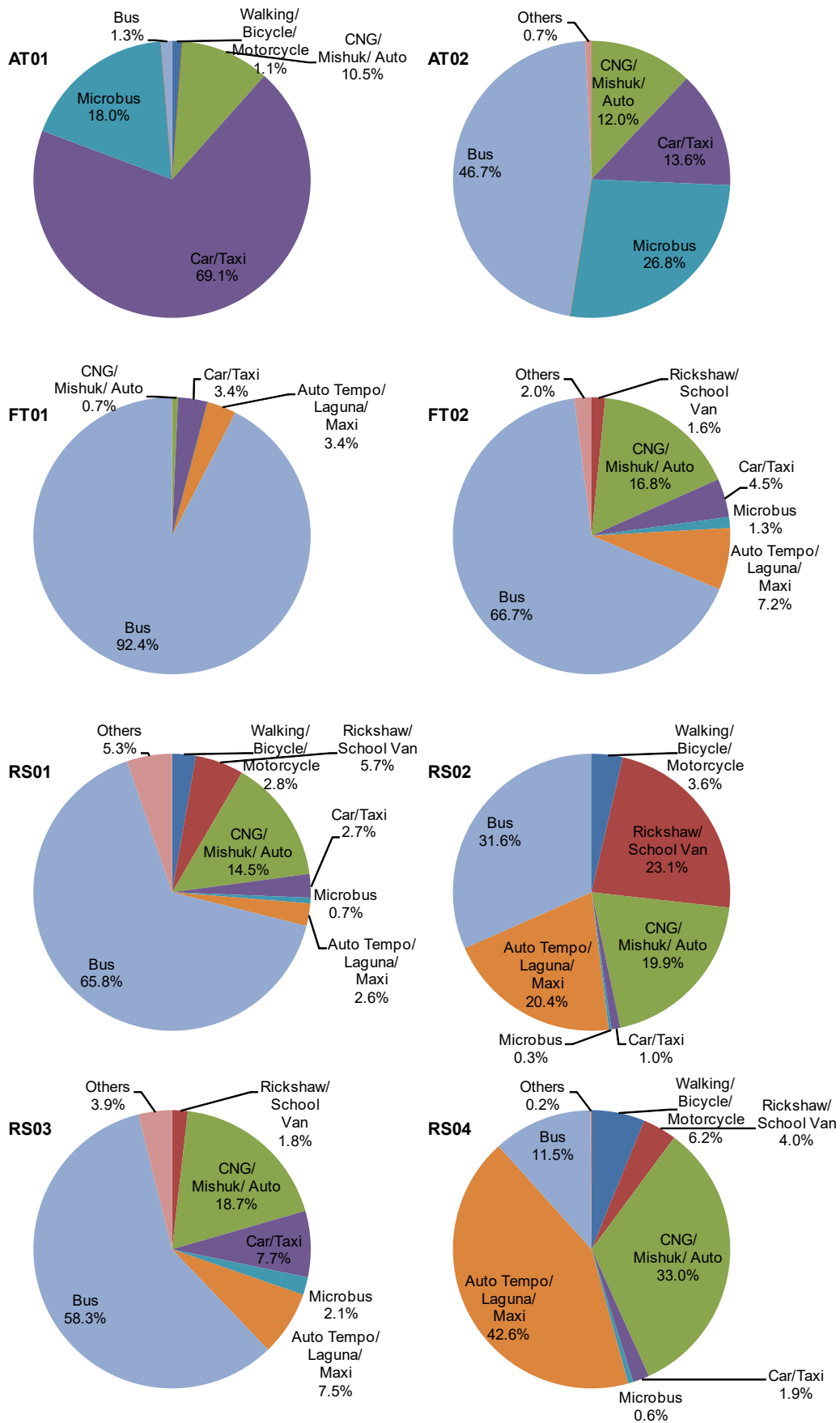
Figure 3.17 and Figure 3.18 show the daily number of trips by mode between the Survey Area and the other divisions and districts. Some 90% of long-haul trips rely on the road transport while there are higher demands of the inland water transport from/to various districts in Barisal and Chandpur, Chittagong.

The capacity of Route 1 between Dhaka and Chittagong, a vital corridor for the country's economy, will be saturated when the traffic demand becomes 4 – 5 times larger in the future although the road has an enough capacity for the time being. It is suggested to widen 2-lane sections to 4 lanes and/or to build a new high-standard expressway. It is also recommended to expand the capacity of the existing railway in order to cater much more passenger and freight demands. The Route 1 and railway (and the suggested expressway as well) will also serve as an alternative route of each other when the traffic on another route is disturbed.



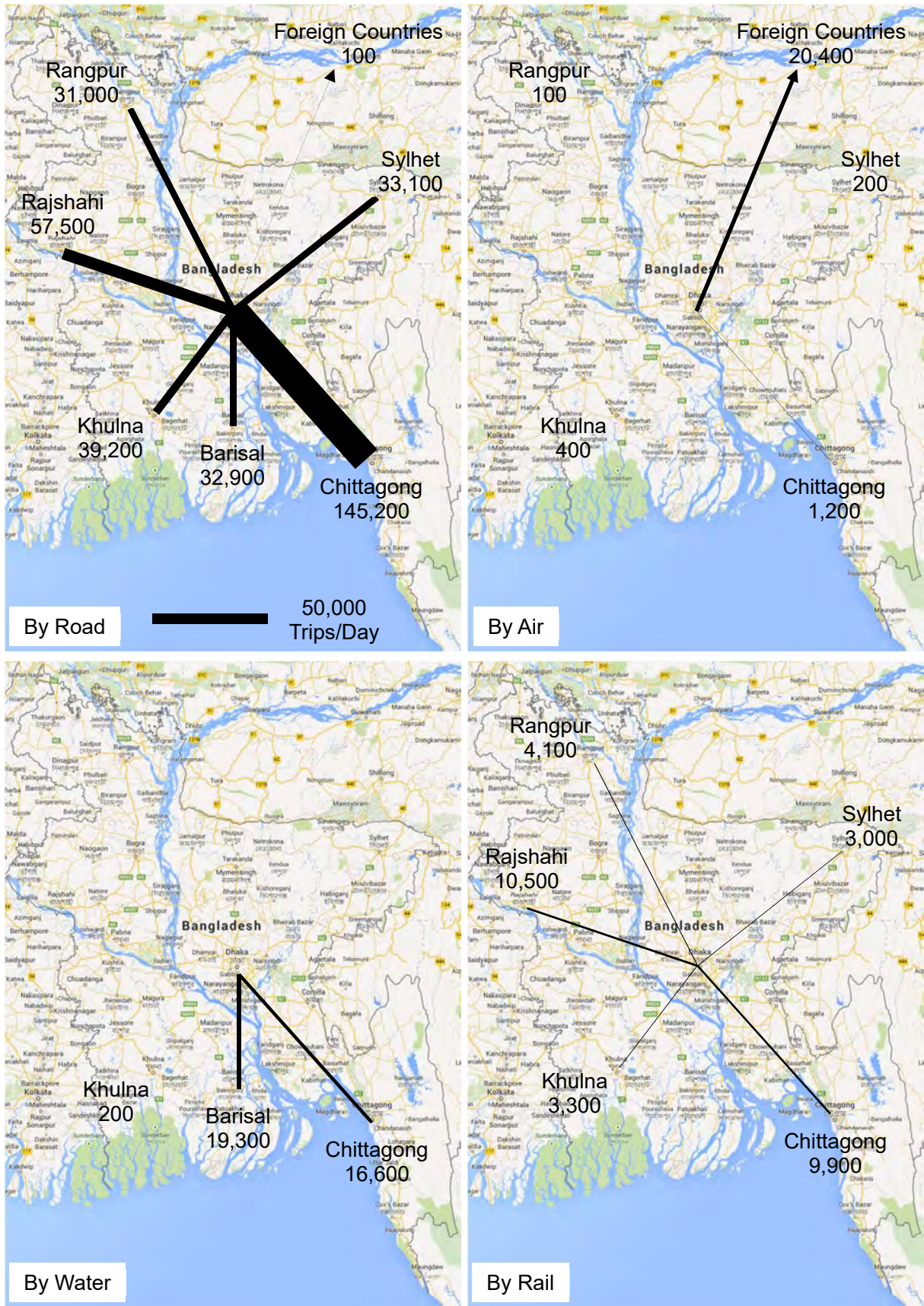
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.15 Daily Trip Attraction to Public Transportation Terminals



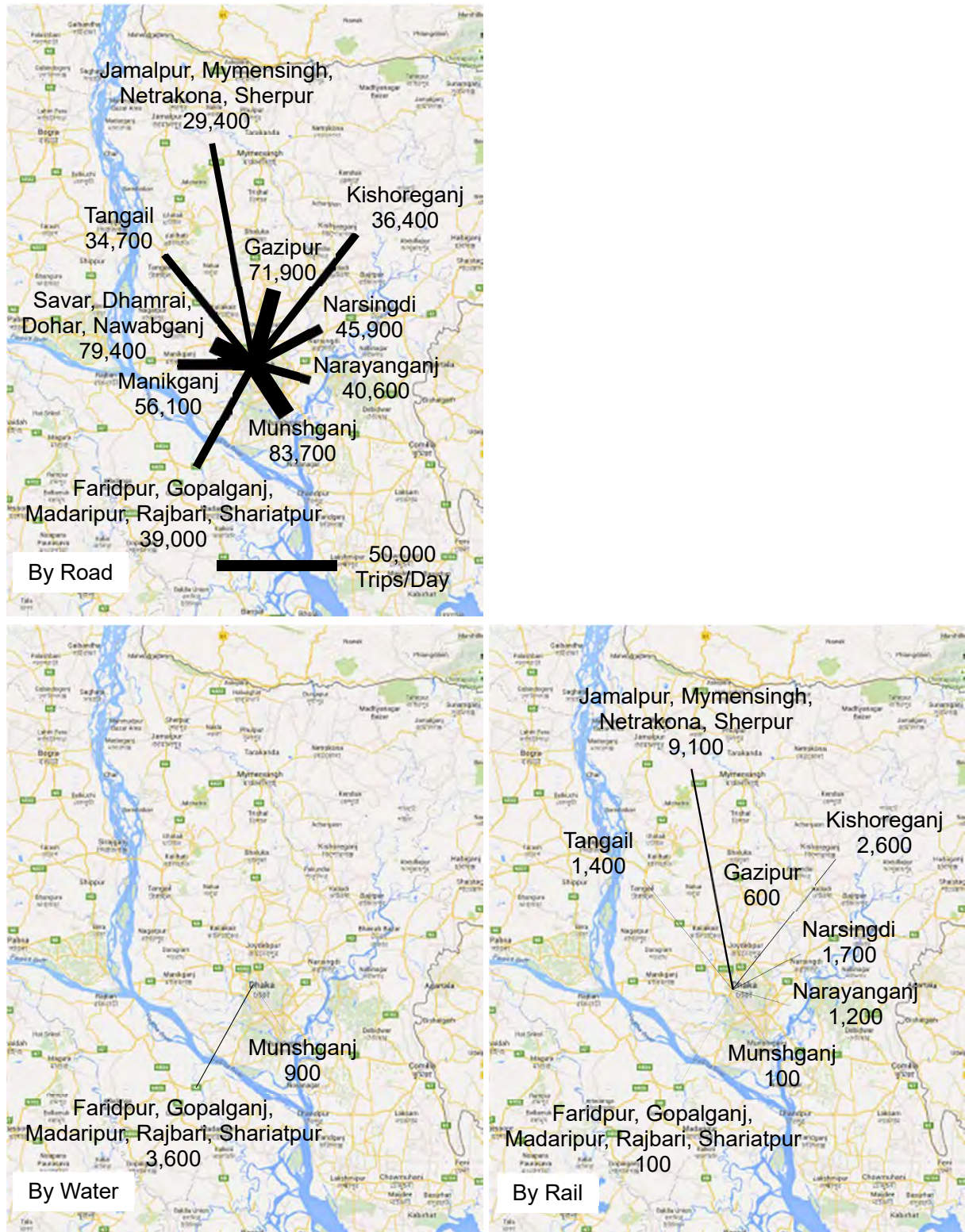
Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.16 Modal Share of the Public Transportation Terminal Access



Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.17 Daily Number of Trips between the Survey Area and the Other Divisions



Note: There are no air passengers between the Survey Area and external Districts of Dhaka Division.

Source: Cordon Line Survey 2014, JICA Study Team

Figure 3.18 Daily Number of Trips between the Survey Area and Dhaka Division

4. SCREEN LINE SURVEY

4.1 Survey Method

The Screen Line Survey includes vehicular traffic count and vehicle occupancy surveys. The vehicular traffic count for every 30 minutes as per the vehicle type and direction is conducted at roadside survey stations. Survey forms are shown in Annex.

The vehicle occupancy survey is done by counting the number of occupants of randomly chosen vehicle as per their type and direction. The minimum sample rate of 10% is ensured for the most congested road section. The sample rate is based on the 16-hour (6 AM to 10 PM) vehicular traffic volume as per vehicle type and direction. Survey forms are shown in Annex.

Vehicle classification for the Screen Line Survey is the same as that for the Cordon Line Survey (see Subsection 3).

4.2 Survey Coverage

A total of 20 survey stations located at roadsides are listed in Table 4.1 while their locations are indicated in Figure 4.1. Actual latitude and longitude of the survey stations are shown in Table 4.2.

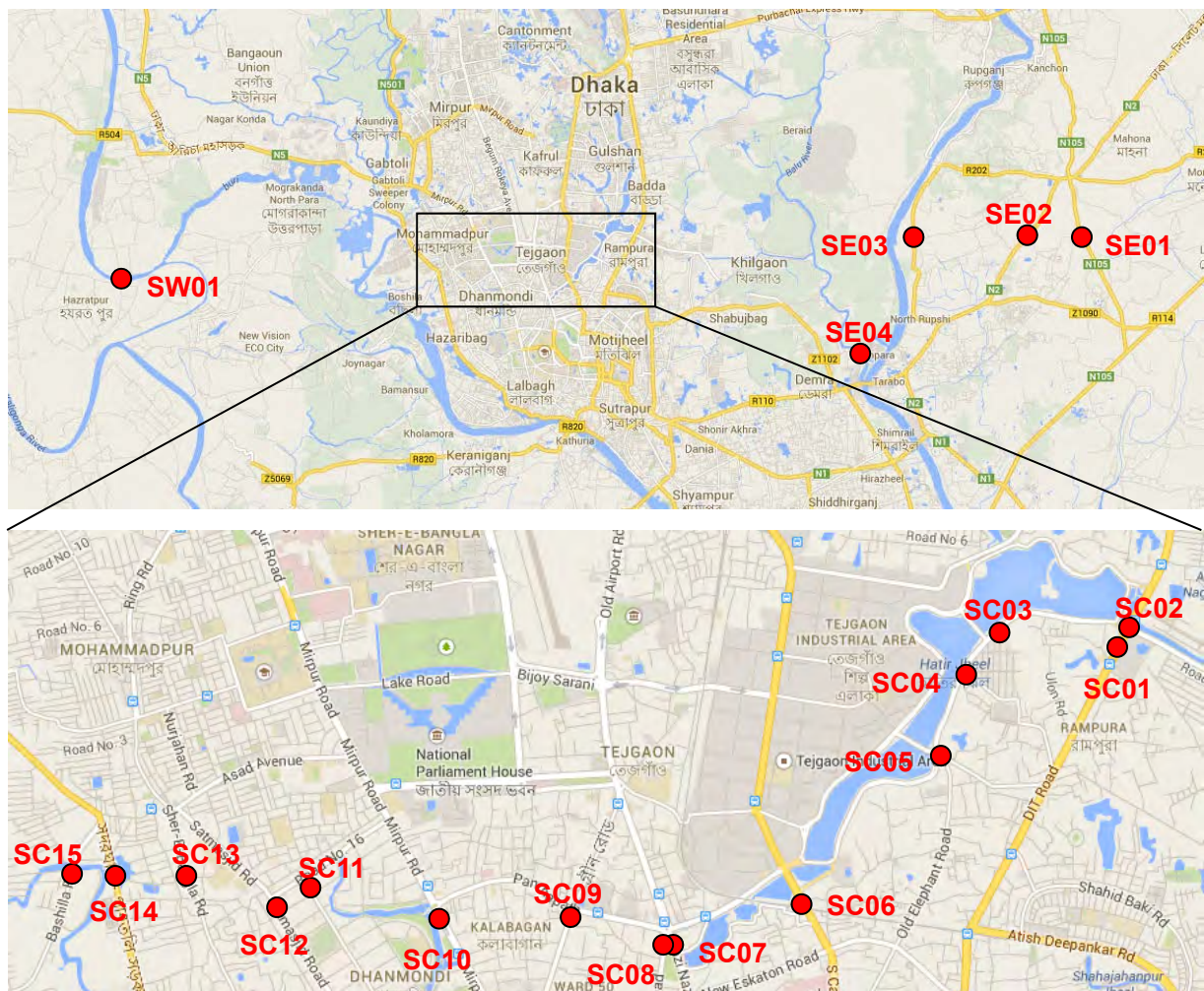
The vehicular traffic count survey is conducted for 24 hours from 6 AM to 6 AM the following day at all stations. The vehicle occupancy survey is conducted for 16 hours from 6 AM to 10 PM simultaneously with the vehicular traffic count survey at all stations except for the station SC02 where the vehicle occupancy is assumed to be the same as that observed at SC01.

Surveys are conducted on Mondays, Tuesdays or Wednesdays except on a holiday or any day with special festivities as well as during bad weather condition.

Table 4.1 Screen Line Survey Stations and Survey Periods

Seq.	Code	Survey Station	Survey Period (hours)	
			Traffic Count	Vehicle Occupancy
1	SC01	DIT Road	24	16
2	SC02	DIT Road cor. Banasree Main Road	24	-
3	SC03	Road No. 3	24	16
4	SC04	Mohanagar Housing Road	24	16
5	SC05	Modhubagh Road	24	16
6	SC06	Shaheed Tajuddin Ahmed Avenue	24	16
7	SC07	Kazi Nazul Islam Avenue	24	16
8	SC08	Sonargaon Road	24	16
9	SC09	Green Road	24	16
10	SC10	Mirpur Road	24	16
11	SC11	Road No. 8A	24	16
12	SC12	Satmasjid Road	24	16
13	SC13	Sher-E-Bangla Road	24	16
14	SC14	Sadarghat-Gabtol Road	24	16
15	SC15	Bashilla Road	24	16
16	SE01	Bhulta Highway	24	16
17	SE02	Dhaka-Sylhet Highway	24	16
18	SE03	Bhulta Highway	24	16
19	SE04	Bridge between Demra and Chanpara	24	16
20	SW01	Bridge between Bhakurta and Hazratpur	24	16

Source: JICA Study Team



Source: JICA Study Team

Figure 4.1 Locations of Screen Line Survey Stations

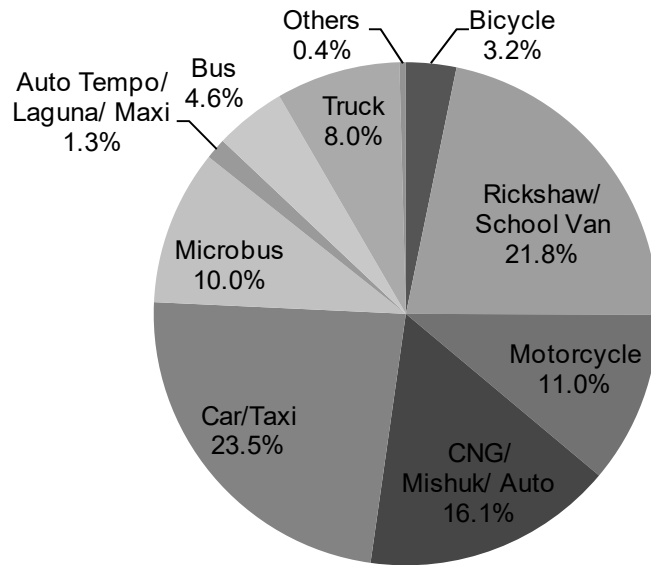
Table 4.2 Actual Location and Survey Date and Time of the Screen Line Survey

Seq.	Code	Survey Station	Latitude and Longitude	Date of Start	Time Started	Time Completed
1	SC01	DIT Road	23° 45' 44.2" N 90° 25' 11.7" E	September 15, 2014	6:00 AM	6:00 AM the following day
2	SC02	DIT Road cor. Banasree Main Road	23° 46' 03.6" N 90° 25' 23.0" E	September 15, 2014	6:00 AM	6:00 AM the following day
3	SC03	Road No. 3	23° 46' 02.4" N 90° 24' 52.9" E	September 2, 2014	6:00 AM	6:00 AM the following day
4	SC04	Mohanagar Housing Road	23° 45' 53.8" N 90° 24' 45.8" E	September 2, 2014	6:00 AM	6:00 AM the following day
5	SC05	Modhubagh Road	23° 45' 36.7" N 90° 24' 39.0" E	September 1, 2014	6:00 AM	6:00 AM the following day
6	SC06	Shaheed Tajuddin Ahmed Avenue	23° 45' 06.2" N 90° 24' 06.2" E	September 1, 2014	6:00 AM	6:00 AM the following day
7	SC07	Kazi Nazul Islam Avenue	23° 44' 57.3" N 90° 23' 36.6" E	September 16, 2014	6:00 AM	6:00 AM the following day
8	SC08	Sonargaon Road	23° 44' 57.8" N 90° 23' 35.0" E	August 27, 2014	6:00 AM	6:00 AM the following day
9	SC09	Green Road	23° 45' 02.1" N 90° 23' 13.2" E	August 26, 2014	6:00 AM	6:00 AM the following day
10	SC10	Mirpur Road	23° 45' 03.5" N 90° 22' 42.4" E	August 26, 2014	6:00 AM	6:00 AM the following day
11	SC11	Road No. 8A	23° 45' 09.2" N 90° 22' 11.6" E	August 25, 2014	6:00 AM	6:00 AM the following day
12	SC12	Satmasjid Road	23° 45' 05.4" N 90° 22' 03.8" E	August 25, 2014	6:00 AM	6:00 AM the following day
13	SC13	Sher-E-Bangla Road	23° 45' 23.9" N 90° 21' 40.4" E	September 3, 2014	6:00 AM	6:00 AM the following day
14	SC14	Sadarghat-Gabtolli Road	23° 45' 17.5" N 90° 21' 25.1" E	September 3, 2014	6:00 AM	6:00 AM the following day
15	SC15	Bashilla Road	23° 45' 13.6" N 90° 21' 17.7" E	September 10, 2014	6:00 AM	6:00 AM the following day
16	SE01	Bhulta Highway	23° 45' 31.6" N 90° 34' 40.0" E	September 8, 2014	6:00 AM	6:00 AM the following day
17	SE02	Dhaka-Sylhet Highway	23° 45' 41.5" N 90° 32' 57.4" E	September 8, 2014	6:00 AM	6:00 AM the following day
18	SE03	Bhulta Highway	23° 45' 42.7" N 90° 30' 59.9" E	September 9, 2014	6:00 AM	6:00 AM the following day
19	SE04	Bridge between Demra and Chanpara	23° 43' 56.4" N 90° 29' 45.0" E	September 9, 2014	6:00 AM	6:00 AM the following day
20	SW01	Bridge between Bhakurta and Hazratpur	23° 45' 10.0" N 90° 14' 59.6" E	September 10, 2014	6:00 AM	6:00 AM the following day

Source: JICA Study Team

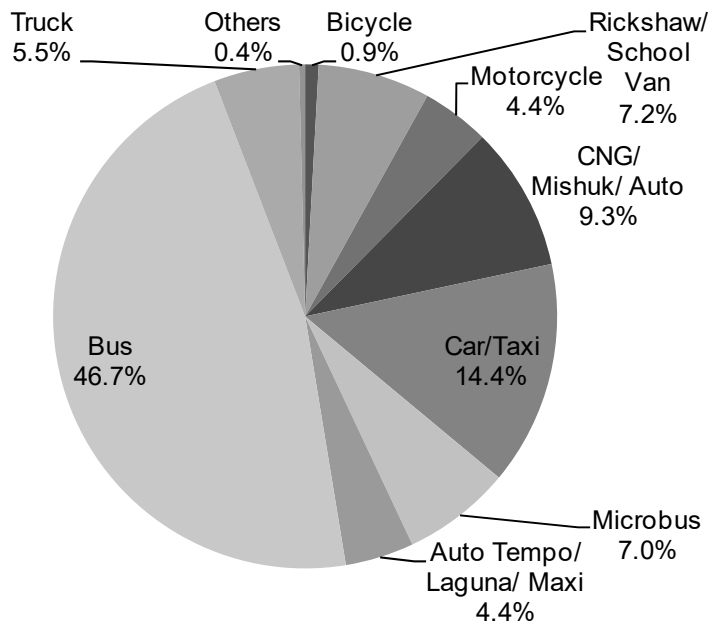
4.3 Survey Results

Observed daily traffic volumes across the Screen Line were 622 thousand vehicles and 2,451 thousand passenger trips except walk and railway trips. Figure 4.2 and Figure 4.3 illustrate observed modal shares based on vehicular and passenger volumes. The result shows 75% of the intra-city traffic relies on public transportation modes. Vehicular traffic volume and average vehicle occupancy are shown in Table 4.3 and Table 4.4.



Source: Screen Line Survey 2014, JICA Study Team

Figure 4.2 Modal Share of the Vehicular Traffic across the Screen Line



Source: Screen Line Survey 2014, JICA Study Team

Figure 4.3 Modal Share of the Passenger Trips across the Screen Line

Table 4.3 Daily Vehicular Traffic Volume at the Screen Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles				Motorized Vehicles																Grand Total
	Bicycle	Rickshaw	School Van	Total	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/ Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others	Total	
SC01	2,166	27,113	166	29,445	6,075	10,752	21,281	149	132	7,658	4,687	40	176	62	1,009	445	2,908	2,930	251	58,555	88,000
SC02	1,493	11,463	202	13,158	4,300	2,543	7,805	70	196	2,941	461	0	10	36	8	15	345	942	103	19,775	32,933
SC03	344	477	15	836	899	1,220	1,561	16	3	513	0	0	0	6	0	0	11	66	7	4,302	5,138
SC04	637	385	6	1,028	1,680	2,623	1,714	9	10	691	0	0	0	8	0	0	31	222	17	7,005	8,033
SC05	1,408	1,125	2	2,535	3,711	4,482	3,570	5	39	1,801	0	0	0	0	10	0	83	577	58	14,336	16,871
SC06	1,598	6,368	40	8,006	5,598	4,761	7,456	69	49	4,345	1,928	11	70	14	73	37	956	1,515	182	27,064	35,070
SC07	2,111	3,712	16	5,839	20,481	29,609	37,933	490	144	18,020	9,325	251	479	141	339	172	3,898	7,409	585	129,276	135,115
SC08	1,251	2,771	8	4,030	4,011	1,974	3,585	11	10	2,144	7	5	18	18	7	1	23	434	52	12,300	16,330
SC09	1,297	25,304	68	26,669	3,043	4,137	6,910	37	1,334	1,908	1	0	54	23	0	2	49	384	171	18,053	44,722
SC10	1,426	3,376	45	4,847	6,706	7,539	27,539	62	11	11,694	5,033	35	126	163	77	127	1,382	1,399	347	62,240	67,087
SC11	905	8,955	13	9,873	1,676	1,210	6,142	3	183	1,491	0	0	7	15	2	1	86	199	84	11,099	20,972
SC12	2,292	34,698	58	37,048	4,856	4,012	20,190	131	3,267	6,710	1,391	4	128	156	39	17	198	512	140	41,751	78,799
SC13	1,157	14,083	133	15,373	1,469	710	1,365	2	47	452	1	0	0	8	7	0	66	148	9	4,284	19,657
SC14	955	2,580	22	3,557	1,287	3,594	1,429	8	1,481	744	1,034	1	5	9	124	18	2,818	2,068	335	14,955	18,512
SC15	910	480	8	1,398	1,971	9,582	1,061	10	113	460	69	1	0	3	11	0	387	776	43	14,487	15,885
SE01	42	128	0	170	282	1,685	353	2	16	594	77	0	3	0	596	79	3,273	1,178	37	8,175	8,345
SE02	260	255	2	517	1,051	3,546	1,691	4	912	996	2,402	62	22	18	291	322	4,560	3,285	175	19,337	19,854
SE03	249	309	5	563	429	2,349	316	4	35	476	0	0	2	10	49	3	406	223	12	4,314	4,877
SE04	396	715	3	1,114	620	3,888	230	3	393	203	55	0	0	0	2	7	128	265	14	5,808	6,922
SW01	63	126	0	189	341	2,061	230	0	112	55	0	0	0	0	2	4	199	260	48	3,312	3,501
Total	20,022	135,035	780	155,837	68,704	100,279	145,055	1,053	8,389	62,044	26,219	410	1,092	664	2,640	1,232	21,585	24,032	2,574	465,972	621,809

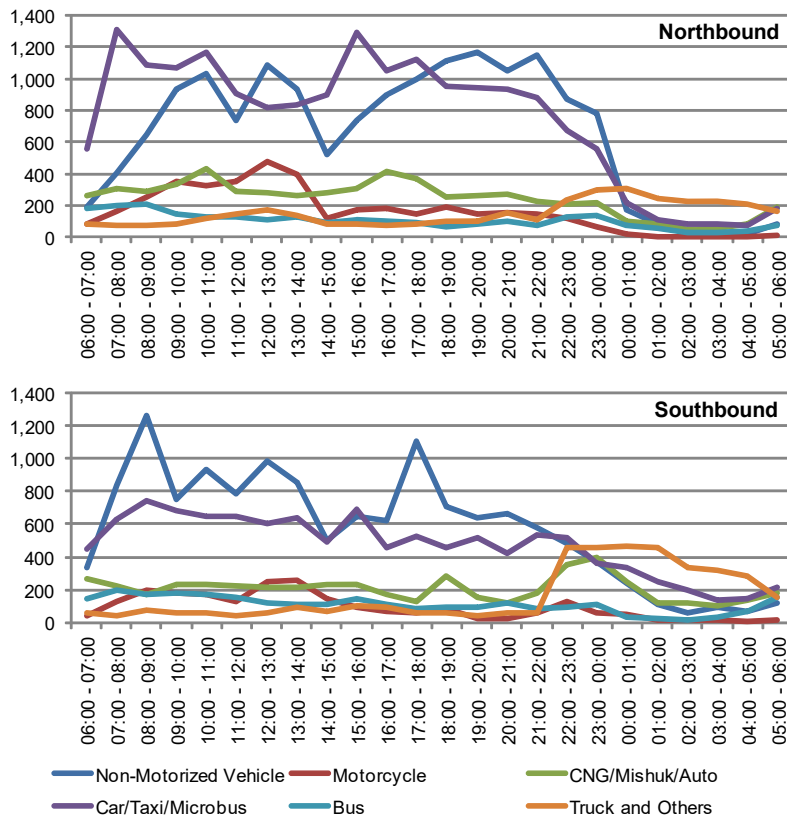
Source: Screen Line Survey 2014, JICA Study Team

Table 4.4 Average Vehicle Occupancy at the Screen Line by Survey Station and Vehicle Type

Survey Station	Non-Motorized Vehicles			Motorized Vehicles														
	Bicycle	Rickshaw	School Van	Motorcycle	CNG/ Mishuk/ Auto	Car	Taxi	Auto Tempo/ Laguna/Maxi	Microbus/ Jeep	Bus/ Mini-bus	AC Bus	Staff Bus	School/ Collage/ University Bus	3-axle Truck/ Trailer	Tanker/ Tank Lorry	2-axle Truck	Pick-up/ Small Van	Others
SC01	1.01	2.52	4.84	1.41	2.84	2.42	3.16	7.09	4.87	41.55	32.96	18.44	24.03	2.18	2.23	2.77	2.62	5.13
SC03	1.12	2.33	4.11	1.74	2.85	3.25	3.60	6.00	4.32	-	-	-	7.67	-	-	3.00	2.65	3.00
SC04	1.01	2.19	4.57	1.52	2.68	2.68	3.67	5.60	4.58	-	-	-	7.75	-	-	3.00	2.48	4.11
SC05	1.15	2.29	2.50	1.98	3.20	3.09	3.29	8.00	6.09	-	-	-	7.00	-	-	2.96	2.87	3.25
SC06	1.02	2.07	3.05	1.44	2.84	2.30	2.94	4.33	3.53	47.00	32.50	23.46	11.83	4.47	2.38	2.84	2.96	3.33
SC07	1.08	2.26	4.00	1.63	2.99	2.55	3.58	8.80	3.86	48.31	49.73	32.12	50.55	2.31	2.16	2.47	2.85	3.85
SC08	1.06	2.01	5.50	1.40	2.71	2.30	-	-	2.80	16.00	-	13.50	13.50	-	-	4.00	2.46	3.62
SC09	1.06	2.21	5.12	1.50	2.33	2.27	3.10	16.01	2.83	45.00	-	9.56	9.92	-	3.00	2.20	2.87	3.21
SC10	1.02	2.13	3.91	1.40	2.72	2.24	2.20	-	2.76	36.79	-	30.42	16.87	-	2.86	2.50	2.61	3.47
SC11	1.04	2.16	-	1.52	2.56	2.25	4.00	9.52	2.56	-	-	14.00	12.67	-	-	1.70	2.35	3.67
SC12	1.08	2.26	1.86	1.42	2.68	2.20	3.00	14.94	2.94	34.52	-	12.08	15.94	-	2.00	3.50	2.42	3.12
SC13	1.03	2.32	3.88	1.72	2.49	2.81	3.00	5.65	4.34	-	-	-	29.00	1.00	-	3.56	2.96	2.67
SC14	1.11	2.51	4.25	1.61	4.60	3.35	3.00	14.68	5.77	35.18	35.00	25.00	20.80	3.13	2.89	3.43	2.65	3.77
SC15	1.04	2.05	3.67	1.66	4.57	3.15	3.67	8.00	4.93	25.73	6.00	-	6.25	2.67	-	3.82	2.81	4.83
SE01	1.17	2.51	-	1.97	4.63	3.62	2.50	5.25	6.86	37.89	-	32.33	2.42	2.35	2.19	2.48	2.42	2.68
SE02	1.00	2.41	10.00	1.85	3.76	2.85	2.75	11.84	5.83	39.95	44.65	22.57	27.00	2.38	2.29	2.54	2.50	3.43
SE03	1.09	2.50	5.00	2.00	4.04	3.07	3.00	7.84	6.58	-	-	35.00	17.17	3.20	2.67	2.60	2.08	3.00
SE04	1.03	2.10	2.75	1.88	4.44	3.05	4.00	13.17	5.93	19.08	-	-	-	3.50	2.00	3.48	3.45	4.13
SW01	1.16	2.31	-	1.88	4.86	3.08	-	12.61	5.64	-	-	-	-	2.67	1.75	3.03	2.83	3.39
Average	1.06	2.29	4.17	1.58	3.35	2.44	3.28	13.16	3.84	42.25	44.11	24.25	20.62	2.58	2.29	2.75	2.68	3.70

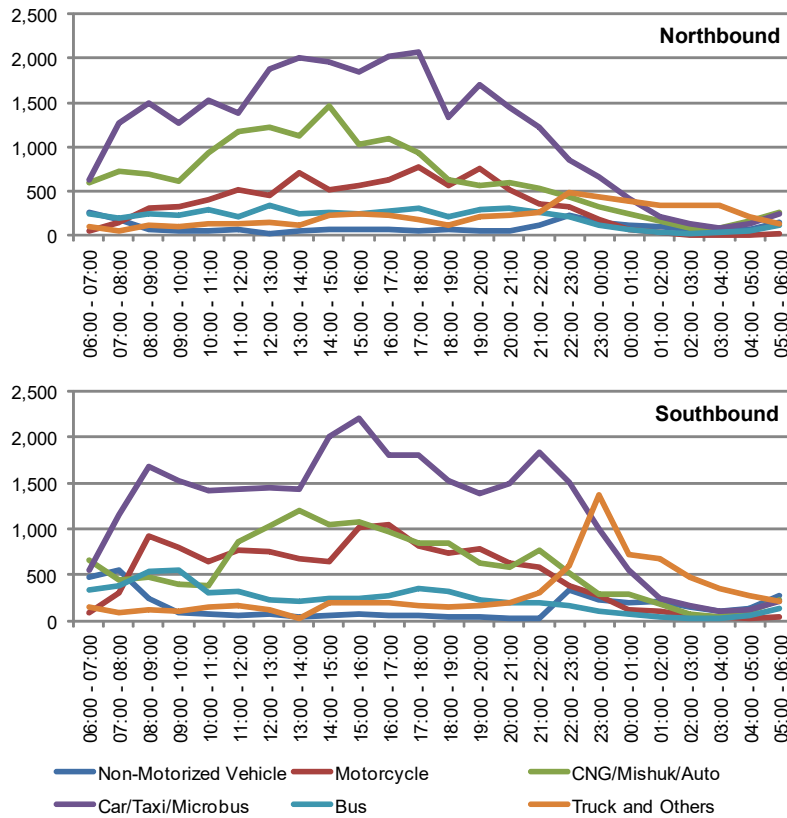
Note: Figures include drivers and conductors as well. Dashes (“-”) indicate no samples were observed.

Source: Screen Line Survey 2014, JICA Study Team



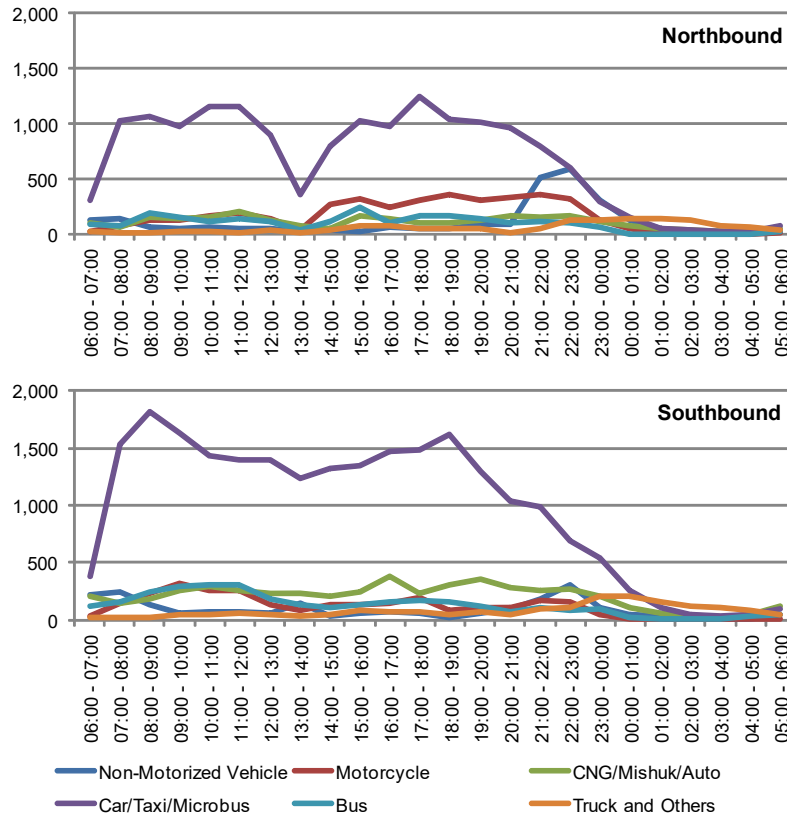
Source: Screen Line Survey 2014, JICA Study Team

Figure 4.4 Hourly Vehicular Traffic Volume at DIT Road (Station SC01)



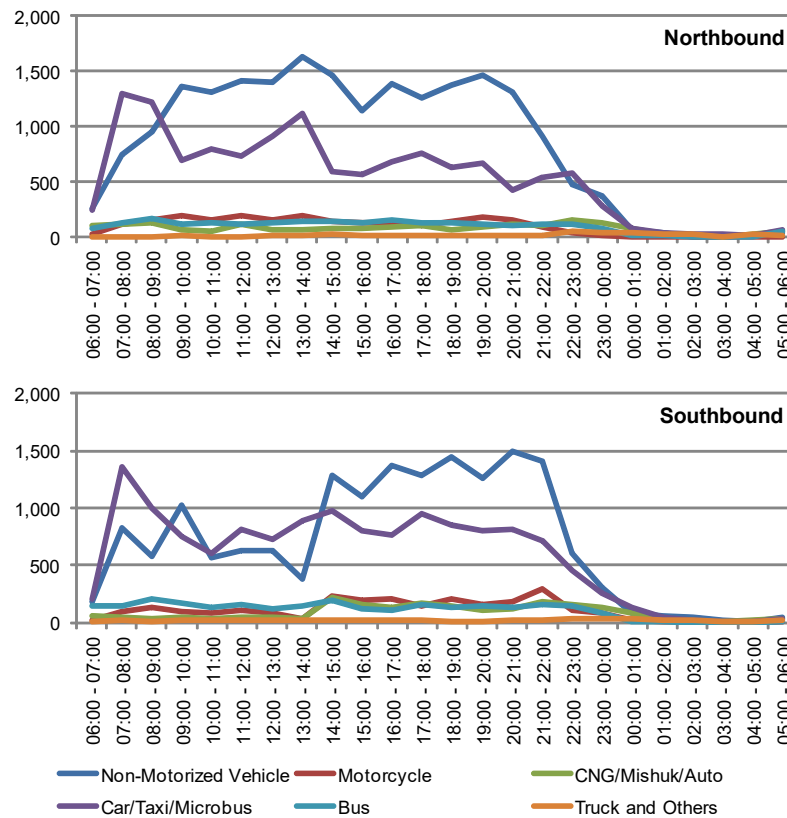
Source: Screen Line Survey 2014, JICA Study Team

Figure 4.5 Hourly Vehicular Traffic Volume at Kazi Nazul Islam Avenue (Station SC07)



Source: Screen Line Survey 2014, JICA Study Team

Figure 4.6 Hourly Vehicular Traffic Volume at Mirpur Road (Station SC10)



Source: Screen Line Survey 2014, JICA Study Team

Figure 4.7 Hourly Vehicular Traffic Volume at Satmasjid Road (Station SC12)

Figure 4.4 to Figure 4.7 show hourly vehicular traffic volumes by vehicle type in four busiest roads. In the Figures, the 18 vehicle types are aggregated into the 6 categories as previously described in Page 18.

The low time variability without apparent morning and evening peaks suggests that the traffic volume is beyond the road capacity and the travel speed is low for a whole day. Introducing mass transit systems and expanding the road capacity are seemingly imminent issues. On the other hand, the current modal share of public transportation is still as high as 80%. The fact suggests a chance to maintain the high modal share of public transport in the future by attracting people to mass transit systems.

5. PUBLIC TRANSPORTATION USERS' OPINION SURVEY

5.1 Survey Method

Passengers arriving at public transport terminals are randomly sampled and interviewed according to the survey form shown in Annex. The survey form includes items as listed below:

- Passenger's trip information;
- Willingness to pay for time saving;
- Perceptions on the level of present public transport services; and
- Socio-economic characteristics of the passenger.

The following seven travel modes are evaluated with the survey:

- Railway;
- Inter-city air-conditioned bus;
- Intra-city bus;
- Intra-city minibus;
- Auto tempo/Laguna/Maxi;
- CNG/Mishuk/Auto; and
- Rickshaw.

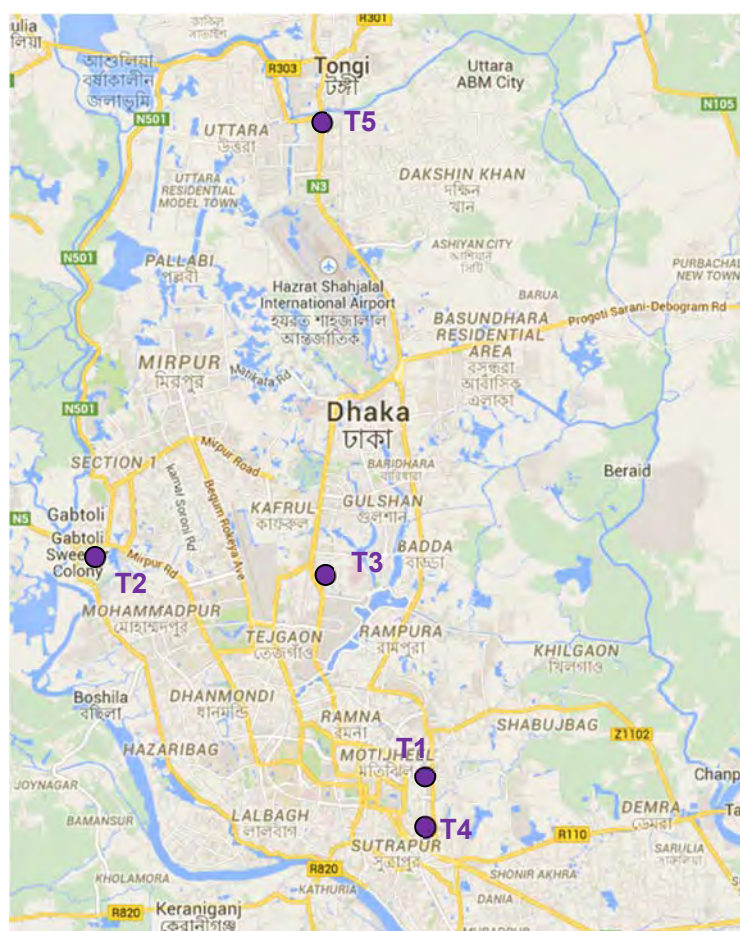
5.2 Survey Coverage

A total of 5 survey stations listed in Table 5.1 and their locations are indicated in Figure 5.1. The target number of samples is 2,450 and the breakdown is shown in Table 5.1. Passenger interviews are conducted for 16 hours (from 6 AM to 10 PM) in each survey station. Surveys are on weekdays except on a holiday or a day with special activities or bad weather condition.

Table 5.1 Public Transportation Users' Opinion Survey Stations and Numbers of Samples by Mode

Code	Survey Station	Number of Samples by Mode							Total
		Railway	Intra city AC Bus	Intra city Bus	Intra city Mini Bus	Auto tempo/ Laguna/ Maxi	CNG/ Mishuk/ Auto	Rickshaw	
T1	Kamalapur Railway Station	400	-	-	-	-	-	-	400
T2	Gabtali and its surrounding area	-	50	100	100	100	100	100	550
T3	Mohakhali and its surrounding area	-	-	100	100	100	100	100	500
T4	Saidabad and its surrounding area	-	-	100	100	100	100	100	500
T5	Abdullahpurand its surrounding area	-	-	100	100	100	100	100	500

Source: JICA Study Team



Source: JICA Study Team

Figure 5.1 Locations of Public Transportation Users' Opinion Survey Stations

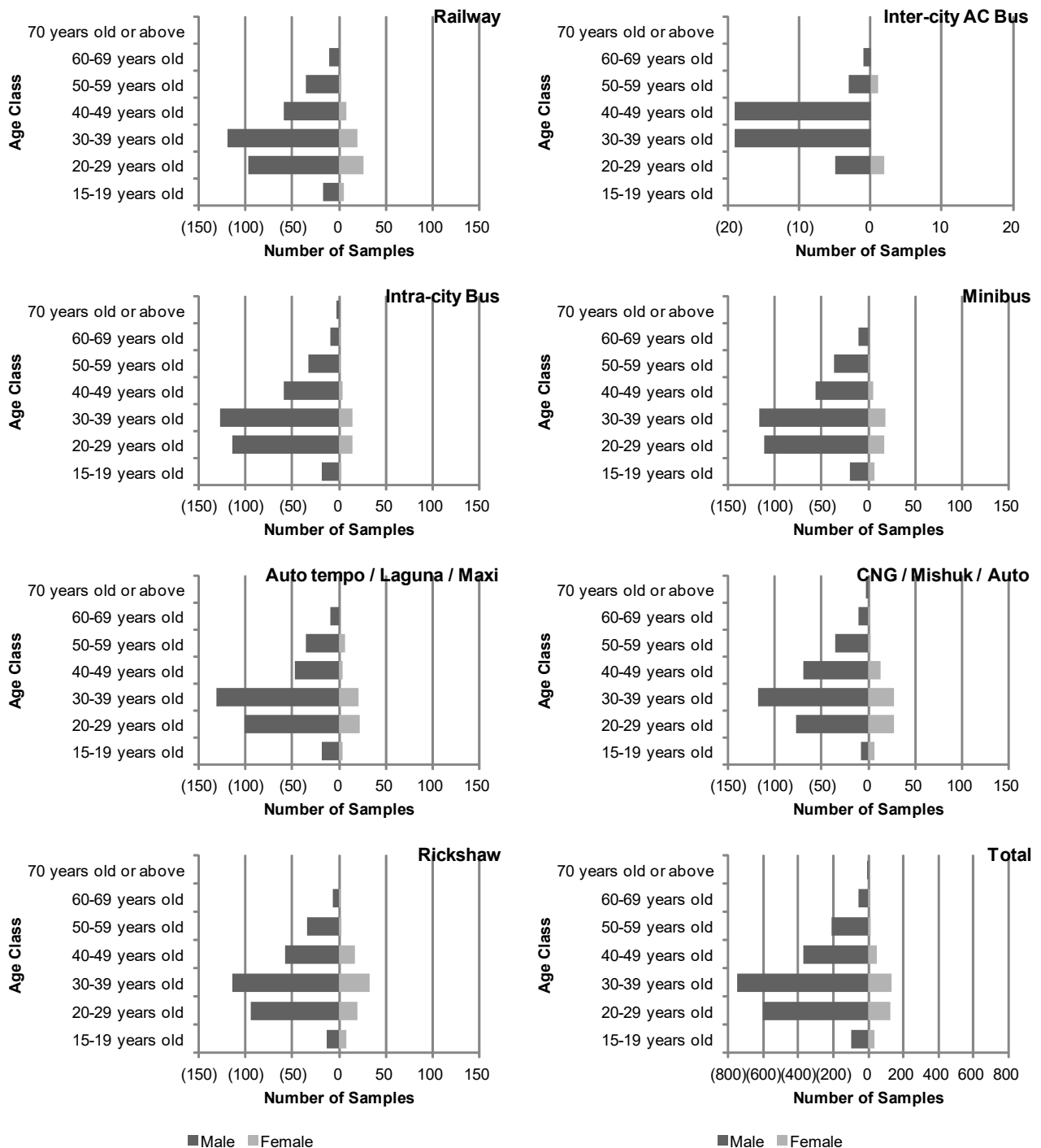
Table 5.2 Survey Date of the Public Transportation Users' Opinion Survey

Code	Survey Station	Survey Dates
T1	Kamalapur Railway Station	September 17 and October 23, 2014
T2	Gabtali and its surrounding area	September 25, 2014
T3	Mohakhali and its surrounding area	September 25, 2014
T4	Saidabad and its surrounding area	September 23, 2014
T5	Abdullahpurand its surrounding area	September 23, 2014

Source: JICA Study Team

5.3 Survey Results

Samples have been collected as per the target as shown in Table 5.1 while the number of samples by transportation mode, gender and age class is shown in Figure 5.2.

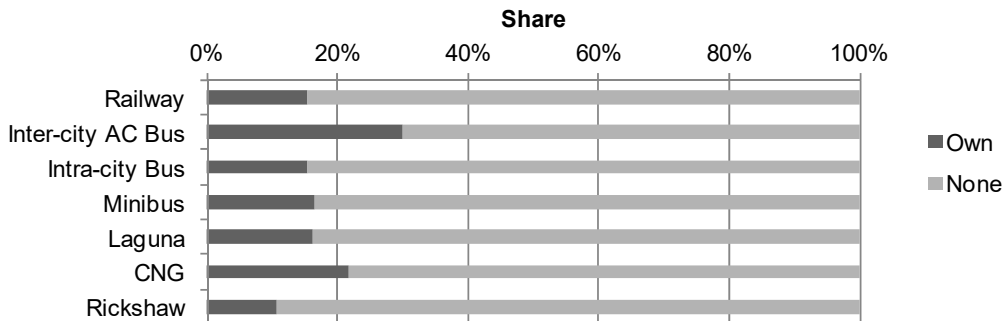


Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

Figure 5.2 Numbers of Samples by Mode, Gender and Age Class

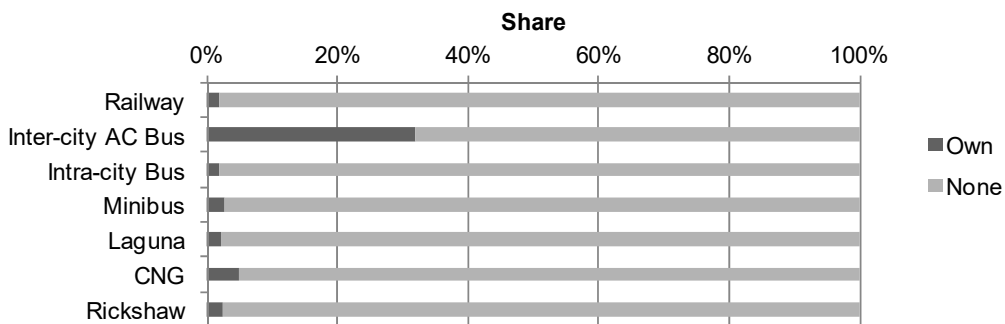
Few numbers of public transportation users have their own vehicle. Figure 5.3 and Figure 5.4 show motorcycle and car ownership of the interviewees. Excluding inter-city AC bus passengers, average motorcycle and car ownership rates are 16% and 3% respectively.

Figure 5.5 shows the distribution of monthly family income class by transportation mode. Although a wide variety of people from low and middle-income classes use public transportation, more or less 14% of the passengers seems to be below the absolute poverty threshold (i.e., about 10,000 Bangladeshi Taka a month for four family members). Serving public transportation is crucial to guarantee mobility rights of citizens in the Survey Area.



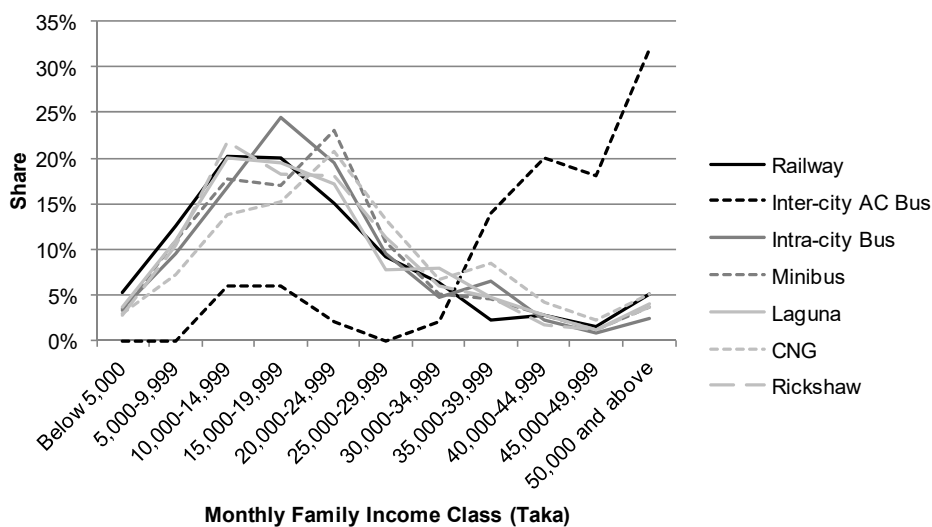
Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

Figure 5.3 Motorcycle Ownership of Public Transportation Users



Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

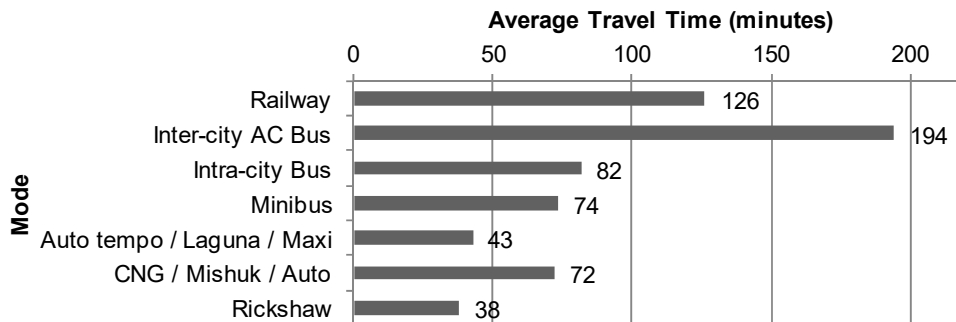
Figure 5.4 Car Ownership of Public Transportation Users



Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

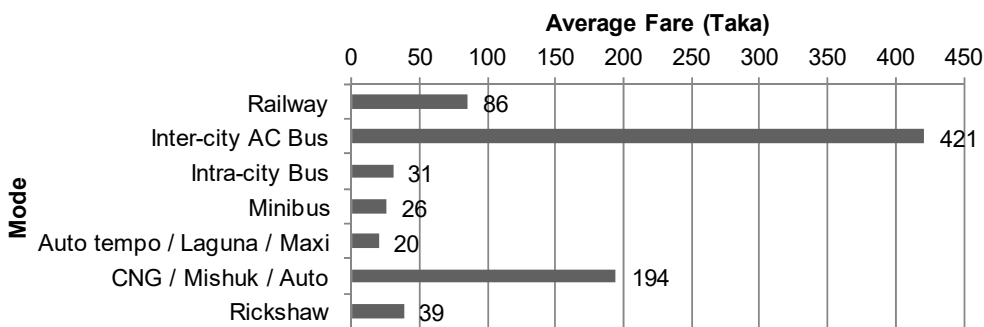
Figure 5.5 Distribution of Monthly Family Income of Public Transportation Users

Figure 5.6 and Figure 5.7 show average travel time and fare by transportation mode, respectively. Current fares are reasonable enough with respect to travel time but this does not necessarily mean that citizens are enjoying a reasonable travel cost with respect to distance travelled. Obviously, better and affordable fares could still be offered if easier road traffic allows public transportation vehicles to make more trips.



Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

Figure 5.6 Average Travel Time



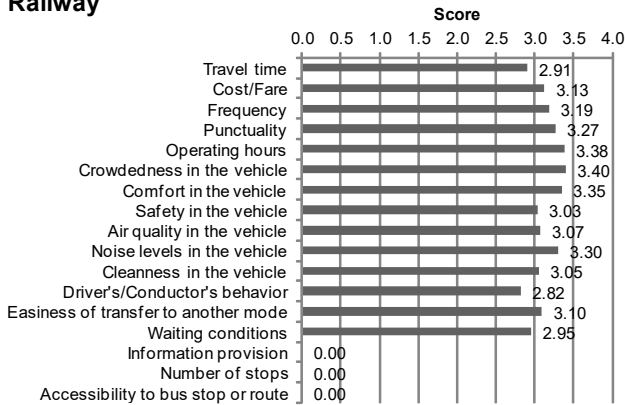
Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

Figure 5.7 Average Fare

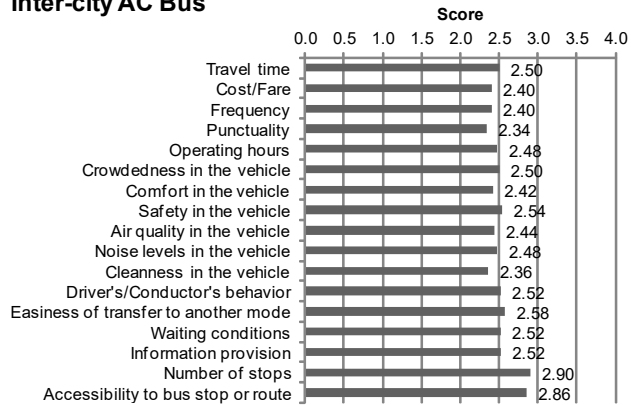
Figure 5.8 shows evaluation of current level of service by each public transportation mode. The score is an arithmetic mean of answers to five-level choices from 1: very good to 5: very bad, hence the lower the score the better the service. Railway, bus, minibus and laguna got lower ratings due to unpleasant in-vehicle conditions mainly caused by congestion and noise. Bus passengers are also hesitant to long travel time due to frequent stops.

The Project on The Revision and Updating of the Strategic Transport Plan for Dhaka (RSTP)
 Technical Appendix: Traffic Survey

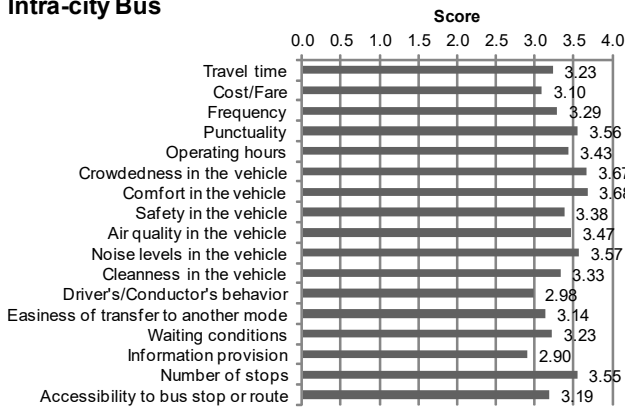
Railway



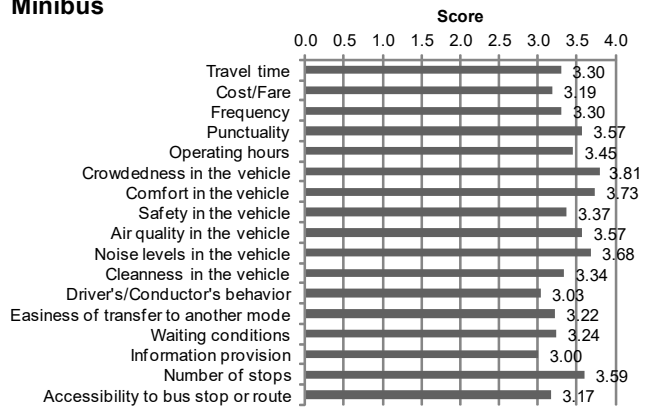
Inter-city AC Bus



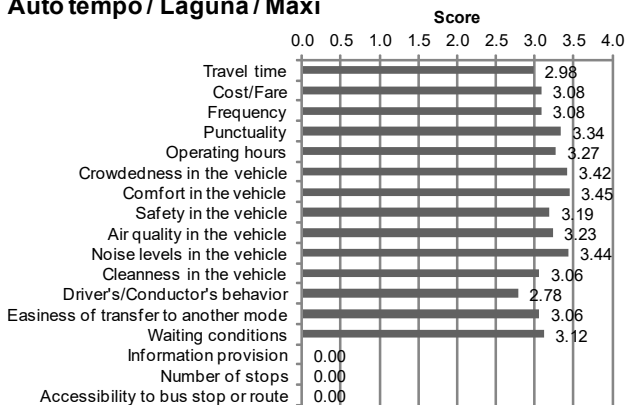
Intra-city Bus



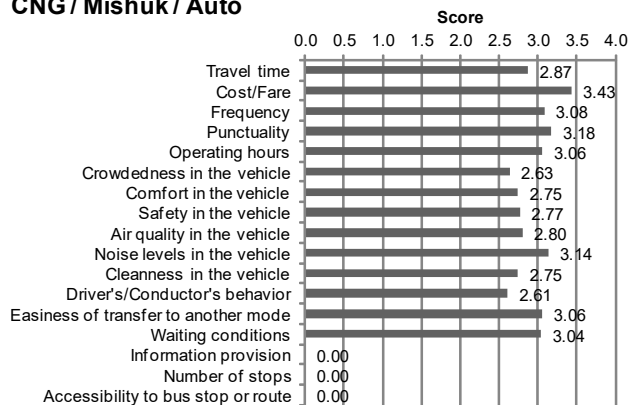
Minibus



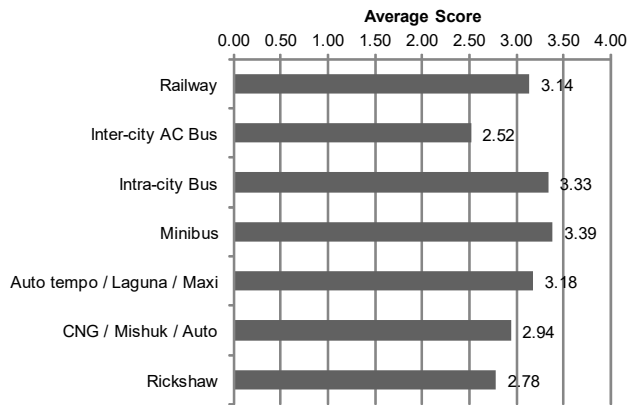
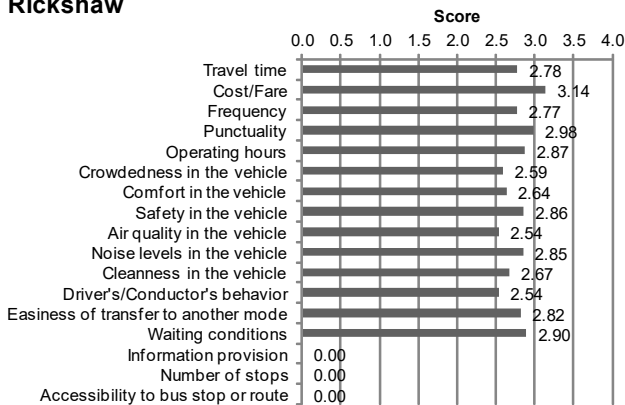
Auto tempo / Laguna / Maxi



CNG / Mishuk / Auto



Rickshaw



Note: Each score is an average of five-level evaluation from 1: Very good to 5: Very bad. Lower score is better.

Source: Public Transportation Users' Opinion Survey 2014, JICA Study Team

Figure 5.8 Evaluation of Current Level of Service

The attraction of vehicles causes the road congestion around public transportation terminals and poses safety risks of boarding and alighting passengers in front of the terminals. The predicted future population growth in the Survey Area will make the situations more serious.

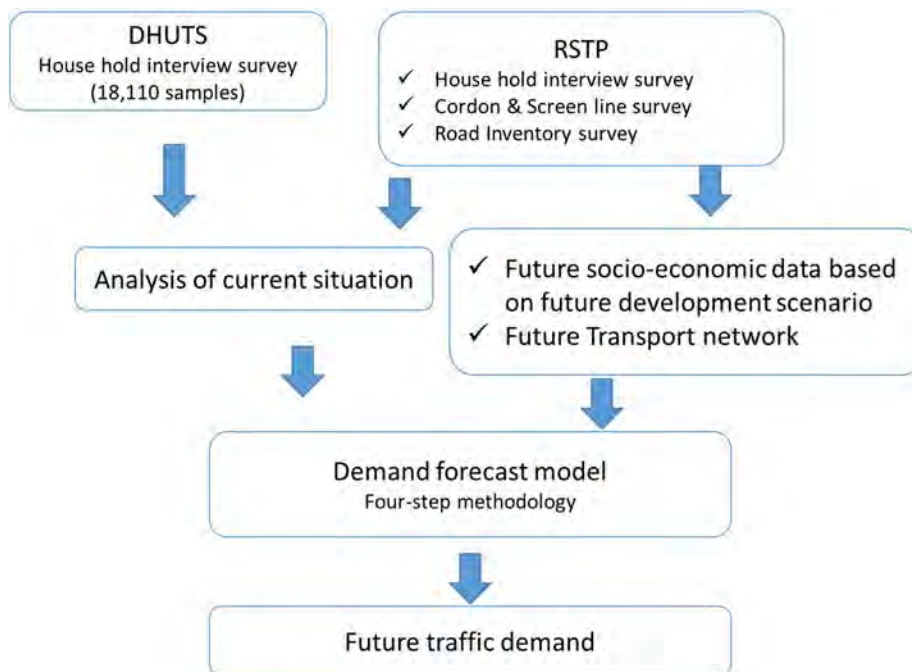
Public transportation terminals are especially encouraged to enhance the transport hub function which has to equip enough spaces for turnaround and parking of public and private vehicles for the terminal access. Terminals are also suggested to have wide, flat, shaded and lighted sidewalks to secure passengers' safe and comfortable walking environment between the terminal and vehicles.

In addition to making spaces for vehicles, it is also recommended to renovate terminal buildings with a lot of spaces for shops and restaurants. Encroachment by street vendors in the road side is another cause of the congestion around terminals. If the street vendors were just moved out, they would lose their jobs but the stores inside terminals would offer alternative employment opportunities to them. Business to passengers at terminals is generally profitable. Tenant fees from the shops and restaurants will be an essential resource of maintaining terminal buildings to continuously provide better services to passengers (e.g., keeping safe, spacious, clean and air-conditioned building, washrooms etc.), which will attract more public transportation users.

Travel Demand Forecast

1. INTRODUCTION

The traffic demand forecast for Dhaka was designed based on the result of the Household Interview Survey (HIS) conducted by DHUTS and the traffic survey results conducted by RSTP which includes the HIS, the Cordon and the Screen Line Survey and the Road Inventory Survey. As shown in Figure 1.1, the current traffic demand characteristics were analyzed based on the results of the aforementioned surveys and through these, the demand forecast model is developed along with the input data from the future socio-economic data based on the future development scenario and the future transport network. Consequently, future traffic demand can be formulated as an output of demand forecast model as shown in below study flow.

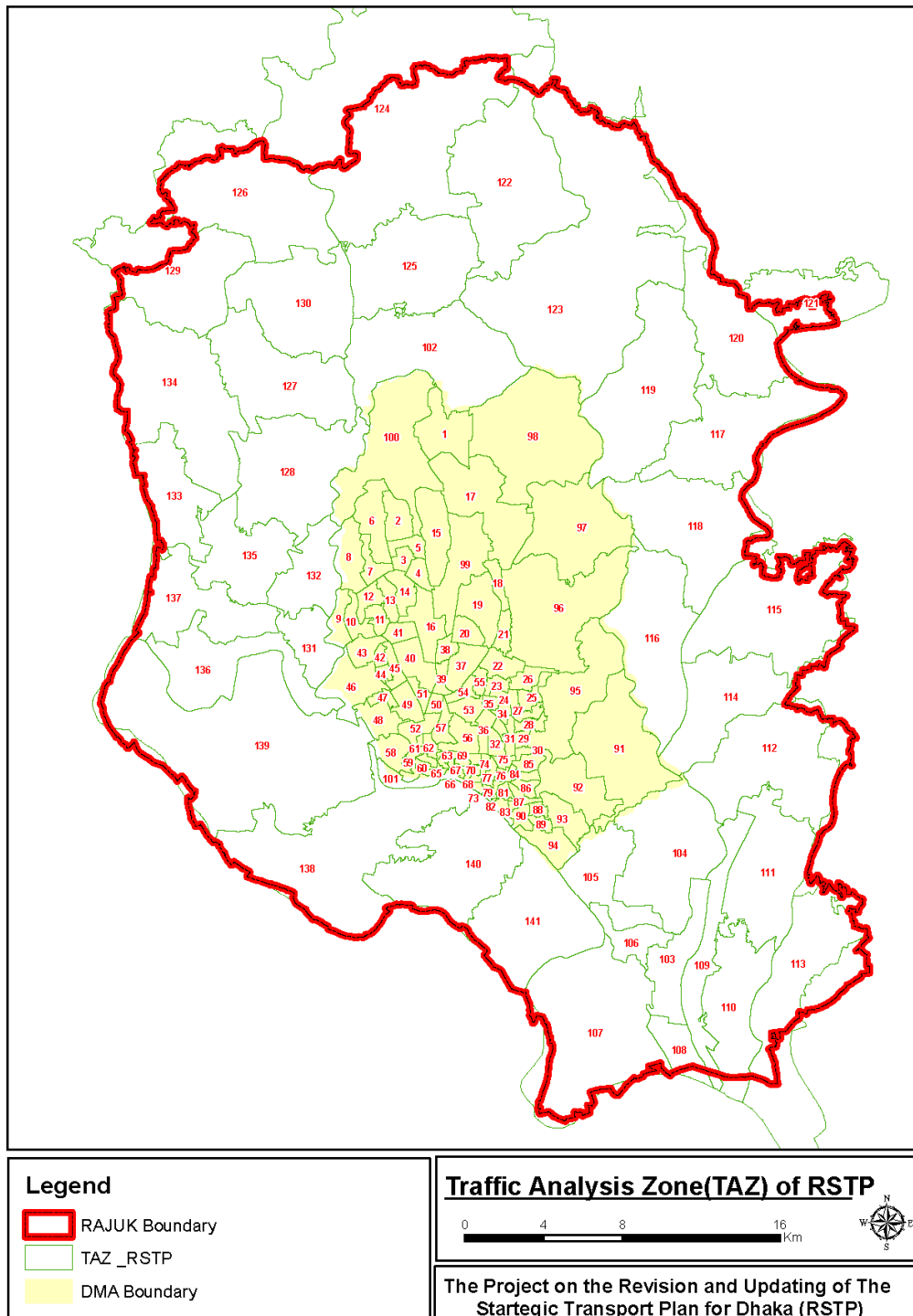


Source: JICA Study Team

Figure 1.1 Flow of Traffic Demand Forecast

2. ZONE SYSTEM

The study area is divided into 141 internal zones as shown in Figure 2.1. In addition, there are 49 external zones representing outside areas of RSTP study area and 5 special trip generation zones representing airport, ferry terminal and rail stations. The zone system is summarized in Table 2.1. And also the detail of zone system is shown in Annex 7.



Source: JICA Study Team

Figure 2.1 Zone System

Table 2.1 Summary of Zone System

Area description		Number of zones
Internal zone	DCC	90
	DMA	11
	RAJUK	40
External zones	Outside of RAJUK	49
Special generator zone	Airport	1
	Ferry terminal	1
	Rail station	3
Total		195

Source: JICA Study Team

3. NETWORK

3.1 Road Inventory Survey

Road inventory survey was conducted in 36 locations as shown in Table 3.1 and to collect the data on the present condition of the existing roads which are located outside of DHUTS area: DMA.

Table 3.1 Inventory Survey Locations

#	Road	Location
1	Dhaka-Chittagong highway / N1	Sanarpar
2	Dhaka-Chittagong highway / N1	Kanchpur
3	Dhaka-chitCtagong highway / N1	Langolband
4	Dhaka-Sylhet Highway/N2	Between Rupali Bank Ltd and I & Hasem Food limited
5	Dhaka-Sylhet Highway/N2	Along Dhaka-Sylhet Highway
6	Dhaka MymensinghHighwya /N3	Kunia
7	Dhaka MymensinghHighwya/ N3	Telipara
8	Joydefpur -Tangail Highway /N4	Kodda Bus Stop
9	Dhaka-Aricha Highway/N5	Near Dhaka-Aricha Highway/N5
10	Dhaka-Aricha Highway/N5	Ganda
11	Dhaka-Aricha Highway/N5	Near Dhaka-Aricha Highway/N5
12	Dhaka-Aricha Highway/N5	Nayarhat Bus Stop
13	Dhaka -Mawa Highway	Near Dhaka -Mawa Highway
14	Bandor -MadanpurHghway	Madanpur
15	Bostail - Madanpur highway / N105	Madanpur
16	Bulta Highway/ N 105	Near Bulta Highway/105
17	Dhaka City Bypass/N105	Near Dhaka City Bypass
18	Dhaka City Bypass/N105	Dhakinkhan
19	Dhaka-Ashuliya Highway /N302	Nishchintapur
20	Anarkoli Road /N511	Near Anarkoli Road
21	Narayanganj highway	Barma bus Stop
22	Dhakeshori - Jalkuri Road / R111	Near Jalkuri BRTC AC bus stop
23	Murapara College Main Road	Near Murapara College Road
24	Tongi -Gorashal Highway /R301	Nimtoli
25	SavarManignaj Highway /R504	Shingair
26	Nabinagar -Chandra Road/R505	Near Nabinagar -Chandra Road/R505
27	Dhaka-Narayanganj Highway /R810	NearPagla
28	Keraniganj/R820	Keraniganj
29	Keraniganj	Near Crown Melamine Industries
30	Taltola/Z1090	NearbanglarTajmahal
31	Bangalbari /R820	Near Bangalbari
32	Bosila	Near Bosila
33	KolnaparaHazratpur Road	Kolatia
34	Birulia Road	Raj Ahsan
35	Mostur	Mostur
36	Purbachal Express Highway	Near National sports complex

Source: JICA Study Team



Source: JICA Study Team

Figure 3.1 Inventory Survey Locations

3.2 Road Capacity and Speed

The road capacity and maximum speed was updated based on the number of lanes and some factors which were identified from the road inventory surveys conducted by RSTP and DHUTS. The daily capacity per direction was determined by following equation.

$$Cd = Cb * FCw * FCsfs * FCsfk * FCc * FCi * FCr * FCp * FCd$$

- Where,
- Cd: Daily capacity (pcu/ day/ lane/ direction)
 - Cb: Base capacity (pcu/ hr/ lane/ direction)
 - FCw: Adjustment factor for carriageway width
 - FCsfs: Adjustment factor for side friction (shoulders)
 - FCsfk: Adjustment factor for side friction (Kerb-obstacles)
 - FCc: Adjustment factor for city size
 - FCi: Adjustment factor for intersection
 - FCr: Adjustment factor for Rickshaw

FCp: Adjustment factor for pavement
 FCd: Conversion factor to daily capacity

Basically the adjustment factors above were followed the Indonesian highway capacity manual. However some factors were modified by study team. The following tables show the applied factors.

Table 3.2 Adjustment Factors for Road Capacity (1)

No. of Lanes (per Direction)	Divided or undivided	Cb (pcu/lane)	Carriageway Width Factor		Side friction factor (shoulders)	
			Carriageway Width (m/lane)	FCw	Road with shoulders Side friction class (width 1.0m)	FCsf
1 (1 lane per both direction)	Undivided	810	any	1.00	Very Low (Residential Area)	0.96
					Low (Residential Area)	0.94
					Medium (Industrial Area)	0.92
					High (Commercial Area)	0.86
					Very High (Commercial Area with Market)	0.79
1	One way or Divided	1650	3.00	0.92	Very Low (Residential Area)	0.96
			3.25	0.96	Low (Residential Area)	0.94
			3.50	1.00	Medium (Industrial Area)	0.92
			3.75	1.04	High (Commercial Area)	0.86
			4.00	1.08	Very High (Commercial Area with Market)	0.79
1	Undivided	1450	2.50	0.56	Very Low (Residential Area)	0.96
			3.00	0.87	Low (Residential Area)	0.94
			3.50	1.00	Medium (Industrial Area)	0.92
			4.00	1.14	High (Commercial Area)	0.86
			4.50	1.25	Very High (Commercial Area with Market)	0.79
			5.00	1.29		
>2	Divided	1650	3.00	0.92	Very Low (Residential Area)	0.99
			3.25	0.96	Low (Residential Area)	0.97
			3.50	1.00	Medium (Industrial Area)	0.95
			3.75	1.04	High (Commercial Area)	0.91
			4.00	1.08	Very High (Commercial Area with Market)	0.86
>2	Undivided	1500	3.00	0.91	Very Low (Residential Area)	0.99
			3.25	0.95	Low (Residential Area)	0.97
			3.50	1.00	Medium (Industrial Area)	0.95
			3.75	1.05	High (Commercial Area)	0.91
			4.00	1.09	Very High (Commercial Area with Market)	0.86

Source: Indonesian Highway Capacity Manual and JICA Study Team

Table 3.3 Adjustment Factors for Road Capacity (2)

No. of Lanes (per Direction)	Divided or undivided	Side friction factor (Kerb-obstacles)		City size factor		Intersection factor	
		Kerb-obstacles Side friction class (Kerb-obstacles 1.0m)	FCsfk	City size	FCc	Area	FCi
1 (1 lane per both direction)	Undivided	Very Low (Residential Area)	0.95	>3.0 mil.	1.04	DMA	0.8
		Low (Residential Area)	0.92			RAJUK	1.0
		Medium (Industrial Area)	0.88				
		High (Commercial Area)	0.81				
		Very High (Commercial Area with Market)	0.72				
1	One way or Divided	Very Low (Residential Area)	0.95	>3.0 mil.	1.04	DMA	0.8
		Low (Residential Area)	0.92			RAJUK	1.0
		Medium (Industrial Area)	0.88			Toll	1.0
		High (Commercial Area)	0.81				
		Very High (Commercial Area with Market)	0.72				
1	Undivided	Very Low (Residential Area)	0.95	>3.0 mil.	1.04	DMA	0.8
		Low (Residential Area)	0.92			RAJUK	1.0
		Medium (Industrial Area)	0.88				
		High (Commercial Area)	0.81				
		Very High (Commercial Area with Market)	0.72				
>2	Divided	Very Low (Residential Area)	0.97	>3.0 mil.	1.04	DMA	0.6
		Low (Residential Area)	0.96			RAJUK	1.0
		Medium (Industrial Area)	0.93			Toll	1.0
		High (Commercial Area)	0.89				
		Very High (Commercial Area with Market)	0.85				
>2	Undivided	Very Low (Residential Area)	0.97	>3.0 mil.	1.04	DMA	0.6
		Low (Residential Area)	0.95			RAJUK	1.0
		Medium (Industrial Area)	0.92				
		High (Commercial Area)	0.87				
		Very High (Commercial Area with Market)	0.85				

Source: Indonesian Highway Capacity Manual and JICA Study Team

Table 3.4 Adjustment Factors for Road Capacity (3)

No. of Lanes (per Direction)	Divided or undivided	Rickshaw factor		Pavement factor		to Daily capacity	
		Rickshaw	FCr	Condition	FCp	peak rate	FCd
1 (1 lane per both direction)	Undivided	Yes	0.70	Good	1.00	10%	10
		No	1.00	Fair	1.00		
				Bad	0.75		
				Very Bad	0.50		
1	One way or Divided	Yes	0.70	Good	1.00	10%	10
		No	1.00	Fair	1.00		
				Bad	0.75		
				Very Bad	0.50		
1	Undivided	Yes	0.70	Good	1.00	10%	10
		No	1.00	Fair	1.00		
				Bad	0.75		
				Very Bad	0.50		
>2	Divided	Yes	0.70	Good	1.00	10%	10
		No	1.00	Fair	1.00		
				Bad	0.75		
				Very Bad	0.50		
>2	Undivided	Yes	0.70	Good	1.00	10%	10
		No	1.00	Fair	1.00		
				Bad	0.75		
				Very Bad	0.50		

Source: Indonesian Highway Capacity Manual and JICA Study Team

The maximum speed of road was determined by the equation below.

$$V = V_f * FC_p$$

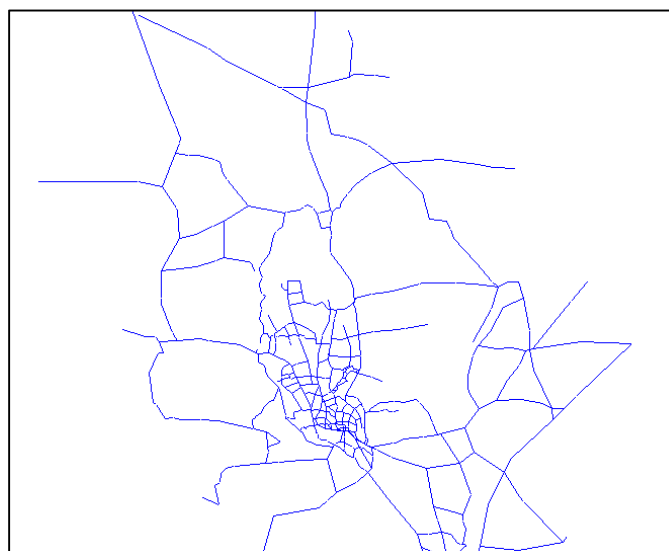
Where, V: Maximum speed (km/h)
 V_f: Free flow speed (km/h)
 FC_p: Adjustment factor for pavement

The free flow speed and the adjustment factor by road type are shown the table below. Figure 3.2 shows the prepared road network.

Table 3.5 Flee Flow Speed and Adjustment Factor for Road Speed

No. of Lanes (per Direction)	Divided or undivided	Flee Flow Speed km/h	Pavement factor for Speed	
			Condition	Factor
1 (1 lane per both direction)	Undivided	30	Good	1.00
			Fair	1.00
			Bad	0.75
			Very Bad	0.50
1	One way or Divided	40	Good	1.00
			Fair	1.00
			Bad	0.75
			Very Bad	0.50
1	Undivided	40	Good	1.00
			Fair	1.00
			Bad	0.75
			Very Bad	0.50
>2	Divided	55	Good	1.00
			Fair	1.00
			Bad	0.75
			Very Bad	0.50
>2	Undivided	50	Good	1.00
			Fair	1.00
			Bad	0.75
			Very Bad	0.50

Source: JICA Study Team

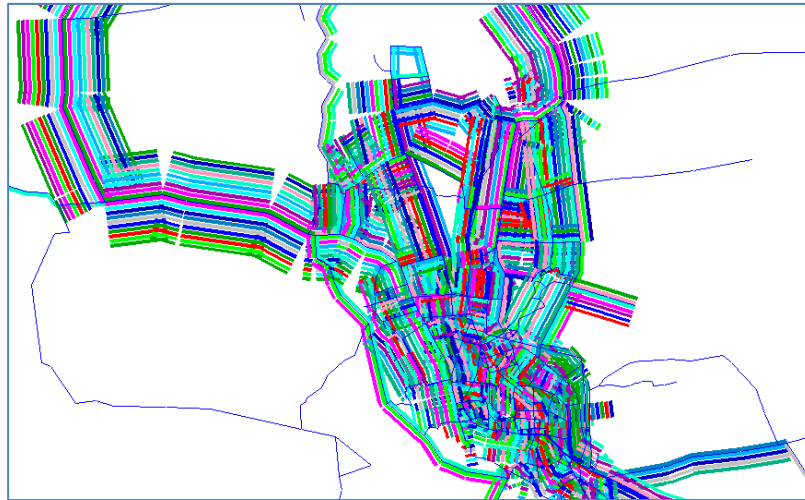


Source: JICA Study Team

Figure 3.2 Road Network

3.3 Transit Network

The transit network for transit assignment was prepared based on the list of official bus and mini bus routes within Greater Dhaka Area as on 2-April, 2012 from BRTA. The transit network includes 3 Bangladesh Railway lines and 282 bus and min bus routes as shown in figure below and Annex 8.



Source: JICA Study Team

Figure 3.3 Transit Network

4. VOC AND VOT

The unit cost of VOC (Vehicle Operation Cost) and VOT (Value of Time) were required as input data for demand forecast model. The following costs were applied as the unit of cost of VOCs. It was estimated by RHD. However the unit costs were converted to value of 2014 based on growth of GDP.

Table 4.1 VOC

Unit: TK / Vehicle / Km

Car	Motorcycle	CNG	Bus	Truck
15.0	2.0	3.7	23.0	21.5

Source: JICA study team estimated based on RHD Road User Cost Annual Report for 2004 - 2005

TTCs each mode were estimated based on household income and working/ business trip shares by using result of household interview survey. Unit TTCs was assumed to growth in line with GRDP per capita of the study area.

Table 4.2 House Hold Income and VOT in 2014

Items	Car	Motorcycle	CNG	Bus	Truck
Ave. personal monthly Income of working/ business trip makers (BDT/Month)	83,805	36,627	23,427	22,838	20,527
Hourly income of working/ business trip makers (BDT/Min)*1	8.7	3.8	2.4	2.4	2.1
Hourly income of non-working/ non-business trip makers (BDT/Min)*2	4.4	1.9	1.2	1.2	1.1
Share of working/ business trip (%)	44	56	40	50	66
Share of non-working/ non-business trip (%)	56	44	60	50	34
Value of Time (BDT/Min)	6.3	3.0	1.7	1.8	1.8

*1: 160 hours was applied as average monthly working hour.

*2: Half of working/ business trip maker's price.

Source: JICA Study Team

Table 4.3 VOT in Future Year

Unit: TK / min / person

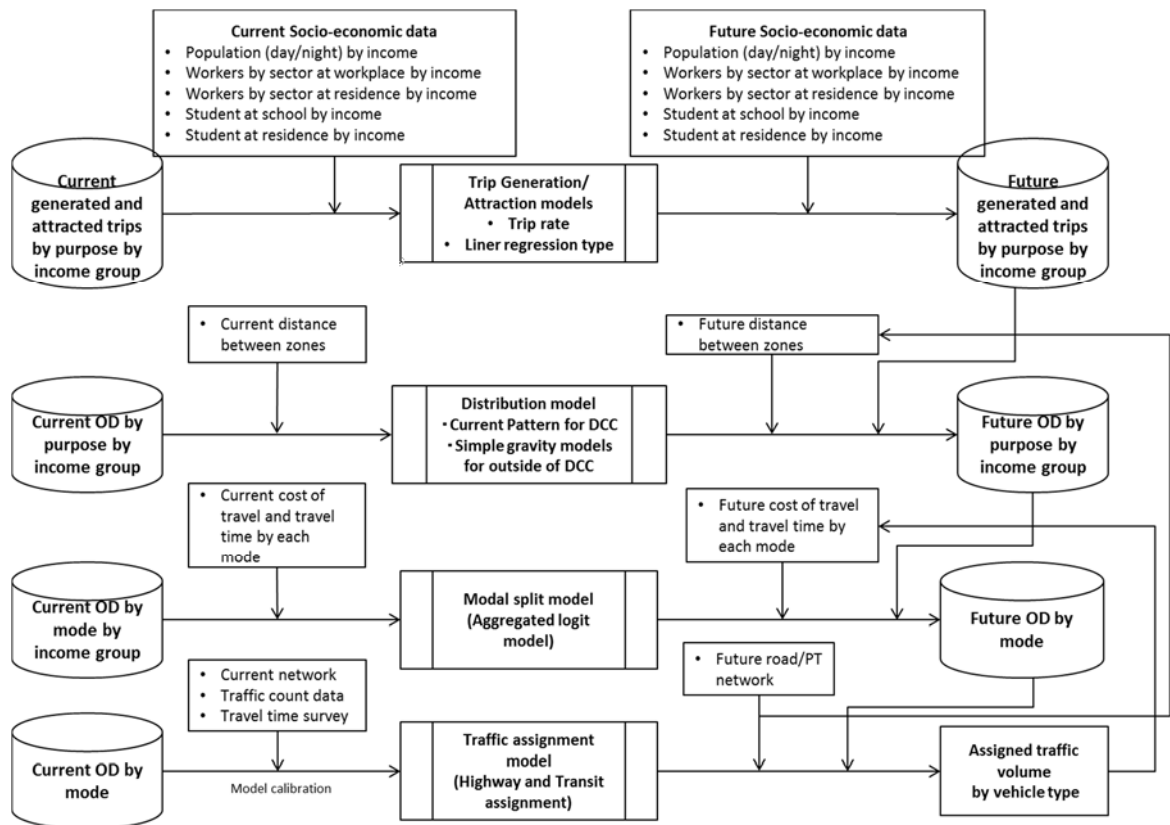
Year	Car	Motorcycle	CNG	Bus	Truck
2014	6.3	3.0	1.7	1.8	1.8
2025	8.9	4.2	2.4	2.5	2.5
2035	12.0	5.7	3.2	3.4	3.4

Source: JICA Study Team

5. DEMAND FORECAST MODEL

5.1 Outline

The demand forecast model in Dhaka was developed based on the conventional four steps demand forecast process. The demand model was constructed separately for low household income group (less than 20,000 TK/ month), middle household income group (20,001 – 50,000 TK/ month) and high household income group (more than 50,001 TK/ month) as their traffic characteristics are different. The outline of the four steps demand forecast modelling procedures and flow of data is briefly illustrated below. The model is consisted four steps which are trip generation/ attraction step, distribution step, modal split step and traffic assignment step. These steps will be explained in the following sections.



Source: JICA Study Team

Figure 5.1 Outline of the Four Steps Demand Forecast Model

5.2 Trip Generation and Attraction

The trip generation and attraction models used trip rate and liner regression techniques. The trip rates and parameters of model were estimated separately by household income group by trip purpose. As trip purpose, eight purposes were applied to modelling. These are “Home to Work”, “Home to School”, “Home to Others”, “Work to Home”, “School to Home”, “Other to Home”, “Non home based others” and “Non home based business”. The model equation and parameters were shown in below.

$$G_i = \sum \alpha x_i + C$$

$$A_j = \sum \alpha x_j + C$$

Where, G: Trip generation
 A: Trip attraction
 i, j: Zone
 x: Variable
 α : Parameters
 C: Constant

Table 5.1 Parameters of Trip Generation and Attraction Model for Low Income Household Group

Purpose	G/A	Variable	α	C
Home to Work	G	No. of Primary Workers at Residence (Low Income)	0.379	-
		No. of Secondary Workers at Residence (LI)	0.947	
		No. of Tertiary Workers at Residence (LI)	0.869	
	A	No. of Primary Workers at Workplace (LI)	0.362	
		No. of Secondary Workers at Workplace (LI)	0.945	
		No. of Tertiary Workers at Workplace (LI)	0.868	
Home to School	G	No. of Primary School Students at Residence (LI)	0.742	-
		No. of Lower Secondary Students at Residence (LI)	0.807	
		No. of Intermediate Secondary Students at Residence (LI)	0.791	
		No. of Higher Secondary Students at Residence (LI)	0.658	
		No. of Univ. and Above Students at Residence (LI)	0.549	
	A	No. of Primary School Students at School (LI)	0.743	
		No. of Lower Secondary Students at School (LI)	0.808	
		No. of Intermediate Secondary Students at School (LI)	0.792	
		No. of Higher Secondary Students at School (LI)	0.659	
		No. of Univ. and Above Students at School (LI)	0.551	
Home to Other	G	Population (LI)	0.155	1420.1
	A	No. of Tertiary Workers at Workplace (LI)	0.630	1140.5
No. of Higher Secondary Students at School (LI)+No. of Univ. and Above Students at School (LI)		0.566		
Work to Home	G	No. of Primary Workers at Workplace (LI)	0.333	-
		No. of Secondary Workers at Workplace (LI)	0.916	
		No. of Tertiary Workers at Workplace (LI)	0.770	
	A	No. of Primary Workers at Residence (Low Income)	0.337	
		No. of Secondary Workers at Residence (LI)	0.998	
No. of Tertiary Workers at Residence (LI)	0.790			
School to Home	G	No. of Primary School Students at School (LI)	0.767	-
		No. of Lower Secondary Students at School (LI)	0.835	
		No. of Intermediate Secondary Students at School (LI)	0.821	
		No. of Higher Secondary Students at School (LI)	0.693	
		No. of Univ. and Above Students at School (LI)	0.567	

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	A	No. of Primary School Students at Residence (LI)	0.767	-
		No. of Lower Secondary Students at Residence (LI)	0.834	
		No. of Intermediate Secondary Students at Residence (LI)	0.821	
		No. of Higher Secondary Students at Residence (LI)	0.692	
		No. of Univ. and Above Students at Residence (LI)	0.563	
Other to Home	G	No. of Tertiary Workers at Workplace (LI)	0.731	3193.8
		No. of Univ. and Above Students at School (LI)	0.655	
	A	Population (LI)	0.130	6796.8
NHBO	G	No. of Secondary Workers at Workplace (LI)	-0.323	6221.6
		No. of Tertiary Workers at Workplace (LI)	0.344	
		No. of Univ. and Above Students at School (LI)	0.870	
	A	No. of Secondary Workers at Workplace (LI)	-0.408	4524.9
		No. of Tertiary Workers at Workplace (LI)	0.544	
		No. of Univ. and Above Students at School (LI)	0.542	
NHBB	G	No. of Secondary Workers at Workplace (LI)	-0.391	879.5
		No. of Tertiary Workers at Workplace (LI)	0.617	
	A	No. of Secondary Workers at Workplace (LI)	-0.385	871.0
		No. of Tertiary Workers at Workplace (LI)	0.611	

Source: JICA Study Team

Table 5.2 Parameters of Trip Generation and Attraction Model for Middle Income Household Group

Purpose	G/A	Variable	α	C
Home to Work	G	No. of Primary Workers at Residence (Middle Income)	0.406	-
		No. of Secondary Workers at Residence (MI)	0.906	
		No. of Tertiary Workers at Residence (MI)	0.783	
	A	No. of Primary Workers at Workplace (MI)	0.391	-
		No. of Secondary Workers at Workplace (MI)	0.900	
		No. of Tertiary Workers at Workplace (MI)	0.804	
Home to School	G	No. of Primary School Students at Residence (MI)	0.662	-
		No. of Lower Secondary Students at Residence (MI)	0.726	
		No. of Intermediate Secondary Students at Residence (MI)	0.694	
		No. of Higher Secondary Students at Residence (MI)	0.668	
		No. of Univ. and Above Students at Residence (MI)	0.657	
	A	No. of Primary School Students at School (MI)	0.697	-
		No. of Lower Secondary Students at School (MI)	0.756	
		No. of Intermediate Secondary Students at School (MI)	0.752	
		No. of Higher Secondary Students at School (MI)	0.704	
		No. of Univ. and Above Students at School (MI)	0.603	
Home to Other	G	Population (MI)	0.211	-355.9
	A	No. of Tertiary Workers at Workplace (MI)	0.231	1606.1
		No. of Higher Secondary Students at School (MI)+No. of Univ. and Above Students at School (MI)	1.043	

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Work to Home	G	No. of Primary Workers at Workplace (MI)	0.340	-
		No. of Secondary Workers at Workplace (MI)	0.809	
		No. of Tertiary Workers at Workplace (MI)	0.659	
	A	No. of Primary Workers at Residence (Low Income)	0.341	
		No. of Secondary Workers at Residence (MI)	0.855	
		No. of Tertiary Workers at Residence (MI)	0.656	
School to Home	G	No. of Primary School Students at School (MI)	0.729	-
		No. of Lower Secondary Students at School (MI)	0.793	
		No. of Intermediate Secondary Students at School (MI)	0.792	
		No. of Higher Secondary Students at School (MI)	0.729	
		No. of Univ. and Above Students at School (MI)	0.616	
	A	No. of Primary School Students at Residence (MI)	0.729	
		No. of Lower Secondary Students at Residence (MI)	0.792	
		No. of Intermediate Secondary Students at Residence (MI)	0.791	
		No. of Higher Secondary Students at Residence (MI)	0.727	
		No. of Univ. and Above Students at Residence (MI)	0.613	
Other to Home	G	No. of Tertiary Workers at Workplace (MI)	0.520	1730.9
		No. of Univ. and Above Students at School (MI)	1.332	
	A	Population (MI)	0.197	
NHBO	G	No. of Tertiary Workers at Workplace (MI)	0.272	2112.6
		No. of Higher Secondary Students at School (MI)+No. of Univ. and Above Students at School (MI)	0.915	
	A	No. of Tertiary Workers at Workplace (MI)	0.388	895.7
		No. of Higher Secondary Students at School (MI)+No. of Univ. and Above Students at School (MI)	0.983	
NHBB	G	No. of Tertiary Workers at Workplace (MI)	0.697	-1355.0
	A	No. of Tertiary Workers at Workplace (MI)	0.695	-1357.5

Source: JICA Study Team

Table 5.3 Parameters of Trip Generation and Attraction Model for High Income Household Group

Purpose	G/A	Variable	α	C
Home to Work	G	No. of Primary Workers at Residence (Low Income)	0.380	-
		No. of Secondary Workers at Residence (HI)	0.813	
		No. of Tertiary Workers at Residence (HI)	0.711	
	A	No. of Primary Workers at Workplace (HI)	0.361	
		No. of Secondary Workers at Workplace (HI)	0.799	
		No. of Tertiary Workers at Workplace (HI)	0.745	
Home to School	G	No. of Primary School Students at Residence (HI)	0.686	-
		No. of Lower Secondary Students at Residence (HI)	0.662	
		No. of Intermediate Secondary Students at Residence (HI)	0.726	
		No. of Higher Secondary Students at Residence (HI)	0.694	
		No. of Univ. and Above Students at Residence (HI)	0.668	
	A	No. of Primary School Students at School (HI)	0.662	
		No. of Lower Secondary Students at School (HI)	0.725	

		No. of Intermediate Secondary Students at School (HI)	0.693	
		No. of Higher Secondary Students at School (HI)	0.671	
		No. of Univ. and Above Students at School (HI)	0.659	
Home to Other	G	Population (HI)	0.218	-252.7
	A	No. of Tertiary Workers at Workplace (HI) No. of Higher Secondary Students at School (HI)+No. of Univ. and Above Students at School (HI)	0.112 1.290	921.4
Work to Home	G	No. of Primary Workers at Workplace (HI)	0.163	
		No. of Secondary Workers at Workplace (HI)	0.565	
		No. of Tertiary Workers at Workplace (HI)	0.549	
	A	No. of Primary Workers at Residence (Low Income)	0.205	
		No. of Secondary Workers at Residence (HI)	0.591	-
		No. of Tertiary Workers at Residence (HI)	0.531	
School to Home	G	No. of Primary School Students at School (HI)	0.715	
		No. of Lower Secondary Students at School (HI)	0.740	
		No. of Intermediate Secondary Students at School (HI)	0.772	-
		No. of Higher Secondary Students at School (HI)	0.700	
		No. of Univ. and Above Students at School (HI)	0.677	
	A	No. of Primary School Students at Residence (HI)	0.714	
		No. of Lower Secondary Students at Residence (HI)	0.741	
		No. of Intermediate Secondary Students at Residence (HI)	0.773	-
		No. of Higher Secondary Students at Residence (HI)	0.698	
		No. of Univ. and Above Students at Residence (HI)	0.675	
Other to Home	G	No. of Tertiary Workers at Workplace (HI)	0.519	1014.2
		No. of Univ. and Above Students at School (HI)	1.537	
	A	Population (HI)	0.304	787.6
NHBO	G	No. of Tertiary Workers at Workplace (HI)	0.440	1253.9
		No. of Higher Secondary Students at School (HI)+No. of Univ. and Above Students at School (HI)	0.795	
	A	No. of Tertiary Workers at Workplace (HI)	0.607	193.5
		No. of Higher Secondary Students at School (HI)+No. of Univ. and Above Students at School (HI)	1.165	
NHBB	G	No. of Tertiary Workers at Workplace (HI)	0.940	-574.1
	A	No. of Tertiary Workers at Workplace (HI)	0.902	-452.7

Source: JICA Study Team

5.3 Trip Distribution Model

The current intra trip rate was applied to estimate intra trips in the future. On the other hand the current pattern and the gravity model were applied for inter trips as the distribution model for inside and outside of DCC respectively since the trend of future urban development were different by areas. The equation of gravity model and parameters were described below.

$$T_{ij} = k * \frac{G_i^\alpha * A_j^\beta}{d_{ij}^\gamma}$$

Where, G_i : No. of generated trips from Zone i

A_j : No. of attracted trips to Zone j
 d_{ij} : Distance between Zone i and j (km)
 α, β, γ : Parameters
 k: Constant

Table 5.4 Parameters of Gravity Model

HH income	Trip Purpose	α	β	γ	k	Correlation coefficient
Low	Home to Work	0.563	0.410	0.603	0.071	0.563
	Home to School	0.468	0.302	0.614	0.556	0.469
	Home to Other	0.461	0.449	0.630	0.138	0.526
	Work to Home	0.301	0.511	0.473	0.303	0.553
	School to Home	0.330	0.483	0.658	0.369	0.496
	Other to Home	0.502	0.470	0.681	0.065	0.548
	NHBO	0.292	0.291	0.486	2.590	0.473
	NHBB	0.308	0.312	0.353	1.933	0.529
Middle	Home to Work	0.662	0.399	0.480	0.030	0.571
	Home to School	0.530	0.377	0.557	0.171	0.550
	Home to Other	0.498	0.401	0.491	0.137	0.537
	Work to Home	0.305	0.555	0.363	0.193	0.573
	School to Home	0.389	0.491	0.570	0.211	0.541
	Other to Home	0.469	0.523	0.526	0.495	0.564
	NHBO	0.324	0.300	0.376	1.670	0.472
	NHBB	0.297	0.298	0.250	2.107	0.523
High	Home to Work	0.445	0.303	0.299	0.541	0.527
	Home to School	0.416	0.278	0.366	1.189	0.561
	Home to Other	0.453	0.341	0.391	0.431	0.579
	Work to Home	0.253	0.395	0.164	1.163	0.526
	School to Home	0.269	0.411	0.359	1.300	0.551
	Other to Home	0.362	0.425	0.427	0.396	0.558
	NHBO	0.269	0.266	0.284	3.812	0.469
	NHBB	0.248	0.257	0.121	4.340	0.506

Source: JICA Study Team

5.4 Modal Sprit Model

The modal share of walking and bicycle was estimated based on the current share by trip distance and household income group as shown in Table 5.5. the walking and bicycle share will be 0% if distance between zones is more than 10km.

Table 5.5 Share of Walking and Bicycle by Trip Distance

Distance (km)	Low Income	Middle Income	High Income
>2	70%	50%	37%
2-3	69%	47%	28%
3-4	59%	27%	13%
4-5	31%	13%	3%
5-6	22%	10%	3%
6-7	12%	7%	3%
7-8	12%	4%	2%
8-9	11%	3%	2%
9-10	10%	2%	1%

Source: JICA Study Team

For the other modes, the binary logit model was applied.

$$P = \frac{1}{1 + e^{k + \sum \alpha x}}$$

where, P: Share
 α: Parameter
 k: Constant
 x: Travel time difference and travel cost difference

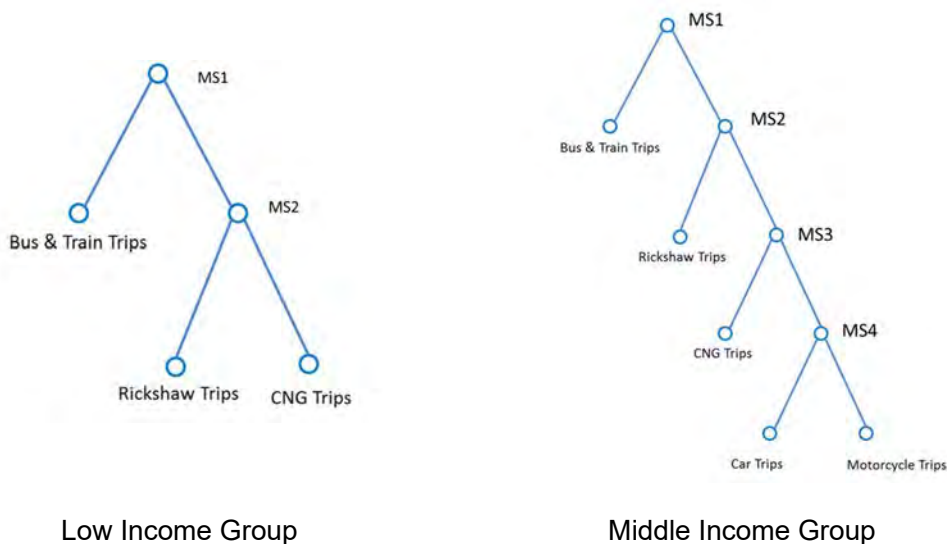
Travel time and travel cost by mode were estimated as below.

Travel Time

Car, MC, CNG: Using results of highway assignment
 Public: On board time of bus (80 % of road speed which will be calculated from highway assignment) + Access and wait time at bus stop (total 10 min.) + On board time of rail (15 km/h for BR) + Access time to rail station (1.5 min.) + Wait time at rail station (half of headway, maximum time is 30 min.)
 Rickshaw: 75% of road speed, maximum is 6kph

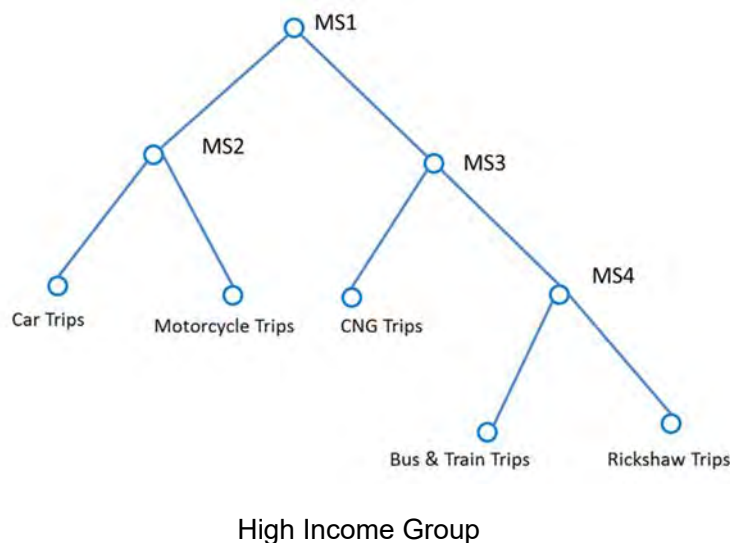
Travel Cost

Car: Toll + 15 tk/ km/ Ave. occupancy ratio (2.6)
 MC: Toll + 2 tk/ km/ Ave. occupancy ratio (1.6)
 CNG: Fare 25 tk + 7.6 tk/ km/ Ave. occupancy ratio (2.6, excluding driver)
 Public: Bus fare 1.6 tk + 7 tk/ km and BR fare 0.5 tk/ km
 Rickshaw: Fare 11.1 tk/km / Ave. occupancy ratio (1.3, excluding driver)



Source: JICA Study Team

Figure 5.2 Structure of Modal Split Model for Low and Middle Income Group



Source: JICA Study Team

Figure 5.3 Structure of Modal Split Model for High Income Group

Table 5.6 Parameters of Modal Split Model (Low Income Group)

Model	Variable		Parameter	T value	Correlation coefficient
MS1	X1	Travel Time difference	0.056	2.273	0.711
	X2	Travel Cost difference	0.053	2.364	
	Constant		-		
MS2	X1	Travel Time difference	0.004	0.279	0.849
	X2	Travel Cost difference	0.032	2.074	
	Constant		-2.960	-7.289	

Source: JICA Study Team

Table 5.7 Parameters of Modal Split Model (Middle Income Group)

Model	Variable		Parameter	T value	Correlation coefficient
MS1	X1	Travel Time difference	0.058	2.309	0.581
	X2	Travel Cost difference	0.070	2.259	
	Constant		-		
MS2	X1	Travel Time difference	0.025	1.247	0.947
	X2	Travel Cost difference	0.062	2.564	
	Constant		-2.765	-7.626	
MS3	X1	Travel Time difference	0.005	2.424	0.880
	X2	Travel Cost difference	0.008	2.462	
	Constant		0.373	4.579	
MS4	X1	Travel Time difference	0.008	0.742	0.818
	X2	Travel Cost difference	-0.006	-5.852	
	Constant		-		

Source: JICA Study Team

Table 5.8 Parameters of Modal Split Model (Middle Income Group)

Model	Variable		Parameter	T value	Correlation coefficient
MS1	X1	Travel Time difference	0.064	3.185	0.815
	X2	Travel Cost difference	0.045	1.592	
	Constant		2.327	6.318	
MS2	X1	Travel Time difference	0.018	0.884	0.957
	X2	Travel Cost difference	-0.032	-9.634	
	Constant		-	-	
MS3	X1	Travel Time difference	0.031	1.413	0.779
	X2	Travel Cost difference	0.005	0.305	
	Constant		3.027	6.172	
MS4	X1	Travel Time difference	0.049	1.778	0.880
	X2	Travel Cost difference	0.143	3.026	
	Constant		1.005	2.438	

Source: JICA Study Team

5.5 External OD and Truck OD

The trip information from/ to external zones and special generator zones were collected by Cordon line survey. These were expanded up to trips on 2025 and 2035 using growth rate of GRDP. Truck OD also was expanded by the same way as external OD. Annual growth rate of GRDP was estimated as 6% for year 2014 to 2024, 5% for 2025 to 2029 and 4% for 2030 to 2035.

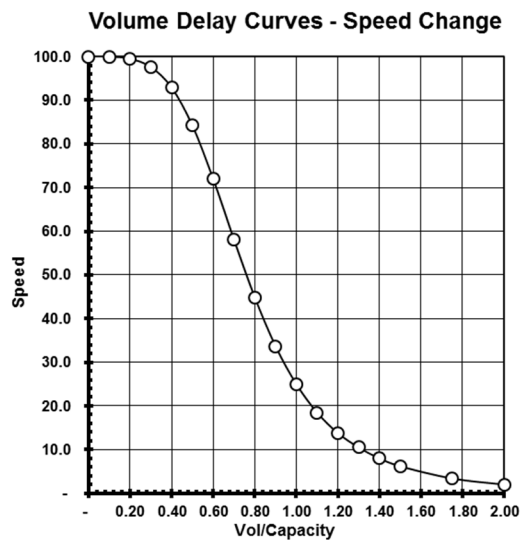
5.6 Traffic Assignment

There are two traffic assignment processes namely; highway assignment for private modes including Motorcycle, CNG, Car and Truck and transit assignment process for Bus and Rail.

The highway assignment process was derived from a well-known 'equilibrium' method, where the traffic from each O/D pair is assigned iteratively to the network until no cheaper/ quicker route could be found. The shortest path building was based on the generalized cost. The equilibrium method re-calculates the new travel time based on the road capacity and assigned traffic volume after each assignment iteration. The speed/ flow i.e., volume delay function was calibrated according to the network, and is based on the BPR function. The general form of the BPR function is described below and is graphically depicted in Figure 5.4.

$$\text{BPR function} \quad t = t_0 \left\{ 1 + \alpha \left(\frac{x}{c} \right)^\beta \right\}$$

Where, t : Travel time
 t_0 : Free flow time
 X : Traffic volume
 C : Road capacity
 α, β : Parameter $\alpha = 3.0, \beta = 4.0$



Source: JICA Study Team

Figure 5.4 BPR Function

The transit assignment model assigns the public transport trips to bus & railway routes as operated. The transit assignment process is based on minimum generalized cost of travel between each origin and destination pair, and it includes: fare, access/ egress time, walk time, wait time, in vehicle time and transfer time. The parameters of transit assignment model were shown in the tables below. The fares each mode were increased based on the growth rate of GRDP per capita.

Table 5.9 Fare

Unit: BDT

Year	Bus	Mini Bus	BR	MRT	BRT
2014	7.0+1.6/km	5.0+1.5/km	0.5/km	16.0+2/km	7.0+3.2/km
2025	9.9+2.3/km	7.1+2.1/km	0.7/km	22.6+2.8/km	9.9+4.5/km
2035	13.4+3.1/km	9.6+2.9/km	1.0/km	30.6+3.8/km	13.4+6.1/km

Source: BRTA, MRT6 project, BRT3 project and JICA Study Team

Table 5.10 Parameters of Transit Assignment

Items	Bus/ Mini Bus	BR	MRT	BRT
Headway (min)	Depend on Route	60-360	3.5	3
Speed (km/h)	Depend on road speed	15	35	23
Access Time to Station (min)	-	1.5	1.5	1.5
Egress Time from Station (min)	-	1.5	1.5	1.5
Walking Speed (km/h)	4			

Source: JICA Study Team

Database

1. INTRODUCTION

A reliable transportation planning database is paramount in undertaking and sustaining transportation planning. The single most comprehensive and expensive data for strategic transportation planning is person-trip data collected during the conduct of a Household Interview Survey (HIS). RSTP database is consisted by the results of traffic survey, socio-economic data, the data regarding demand forecast and GIS data.

This report aims at providing an easy-to-understand and logical guide in understanding and utilizing the RSTP database.

This report is composed of 7 parts, namely:

- (i) Overall description of the database component
- (ii) Household Interview Survey (HIS) data
- (iii) Cordon Line and Screen Line Survey data
- (iv) Public Transportation Users' Opinion Survey data
- (v) Data of Other Surveys
- (vi) Demand Forecast data
- (vii) GIS data

2. DATABASE COMPONENTS

Following table shows the structure of the RSTP database.

Table 2.1 Database Structure

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
Database_Structure.xlsx						Explanation of database structure
1_Survey	1_HIS	1_TOR_Survey_Form	1_TOR_HIS.docx		TOR	
			2_HIS_Form1.docx		Survey form 1	
			3_HIS_Form2-4.xlsx		Survey form 2 and 3	
			4_AnnexB.docx		Annex of TOR	
		2_Output	HIS_Master_Data.mdb		Output of the household interview survey (Access format)	
			HIS_Master_Data.xlsx		Output of the household interview survey	
		3_Report	HIS_Survey_Report.pdf		Survey report	
			PHOTOGRAPH_HIS.docx		Photographs of the survey	
		2_Cordon	1_TOR_Survey_Form	1_TOR_Cordon.docx		TOR
				2_Survey_Forms	Cordon Line_OD Interview--Roadside.pdf	
	Cordon Line_OD Interview--Public Transport Passengers (air).pdf				Interview survey form for air passengers	
	Cordon Line_OD Interview--Public Transport Passengers (Ferry).pdf				Interview survey form for ferry passengers	
	Cordon Line_OD Interview--Public Transport Passengers (bus+rail).pdf				Interview survey form for bus and rail passengers	
	Cordon Line_Vehicle Count--OC.pdf				Vehicle count form for outer cordon line	
Cordon Line_Vehicle Count--IC.pdf		Vehicle count form for inner cordon line				

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				Cordon Line_Vehicle Occupancy--IC.pdf		Vehicle occupancy form
				Cordon Line_Traffic Count--Railway Passengers.pdf		Count form for railway
				Cordon Line_Traffic Count--Ferry and Boat Passengers.pdf		Count form for ferry
				Cordon Line_Traffic Count--Air Passengers.pdf		Count form for air passengers
		2_Output	Cordon_master.xlsx			Master data of cordon OD
			IC_DailySummary.xlsx			Summary for inner cordon count
			OC_DailySummary.xlsx			Summary for outer cordon count
			AT 01 - AT 02	AT 01 Count.xlsx		Survey result
				AT 01 OD.xlsx		Survey result
				AT 02 Count.xlsx		Survey result
				AT 02 OD.xlsx		Survey result
			BT 01 - BT 03	BT 01 OD.xlsx		Survey result
				BT 02 OD.xlsx		Survey result
				BT 03 OD.xlsx		Survey result
			FT 01 - FT 02	FT 01 & 02 Count.xlsx		Survey result
				FT 01 OD.xlsx		Survey result
				FT 02 OD.xlsx		Survey result
			IC 01 - IC 11	IC 01 Count.xlsx		Survey result
				IC 02 Count.xlsx		Survey result
				IC 03 Count.xlsx		Survey result
				IC 04 Count.xlsx		Survey result
				IC 05 Count.xlsx		Survey result
				IC 06 Count.xlsx		Survey result
				IC 07 Count.xlsx		Survey result
				IC 08 Count.xlsx		Survey result
				IC 09 Count.xlsx		Survey result
				IC 10 Count.xlsx		Survey result
				IC 11 Count.xlsx		Survey result

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				IC 01 Occupancy.xlsx		Survey result
				IC 02 Occupancy.xlsx		Survey result
				IC 03 Occupancy.xlsx		Survey result
				IC 04 Occupancy.xlsx		Survey result
				IC 05 Occupancy.xlsx		Survey result
				IC 06 Occupancy.xlsx		Survey result
				IC 07 Occupancy.xlsx		Survey result
				IC 08 Occupancy.xlsx		Survey result
				IC 09 Occupancy.xlsx		Survey result
				IC 10 Occupancy.xlsx		Survey result
				IC 11 Occupancy.xlsx		Survey result
			OC 01 - OC 13	OC 01 Count.xlsx		Survey result
				OC 02 Count.xlsx		Survey result
				OC 03 Count.xlsx		Survey result
				OC 04 Count.xlsx		Survey result
				OC 05 Count.xlsx		Survey result
				OC 06 Count.xlsx		Survey result
				OC 07 Count.xlsx		Survey result
				OC 08 Count.xlsx		Survey result
				OC 09 Count.xlsx		Survey result
				OC 10 Count.xlsx		Survey result
				OC 11 Count.xlsx		Survey result
				OC 12 Count.xlsx		Survey result
				OC 13 Count.xlsx		Survey result
				OC 01 OD.xlsx		Survey result
				OC 02 OD.xlsx		Survey result
				OC 03 OD.xlsx		Survey result
				OC 04 OD.xlsx		Survey result
				OC 05 OD.xlsx		Survey result
				OC 06 OD.xlsx		Survey result
				OC 07 OD.xlsx		Survey result
				OC 08 OD.xlsx		Survey result
				OC 09 OD.xlsx		Survey result

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				OC 10 OD.xlsx		Survey result
				OC 11 OD.xlsx		Survey result
				OC 12 OD.xlsx		Survey result
				OC 13 OD.xlsx		Survey result
			RS 01 - RS 04	RS 01 Count.xlsx		Survey result
				RS 02 Count.xlsx		Survey result
				RS 03 Count.xlsx		Survey result
				RS 04 Count.xlsx		Survey result
				RS 01 OD.xlsx		Survey result
				RS 02 OD.xlsx		Survey result
				RS 03 OD.xlsx		Survey result
				RS 04 OD.xlsx		Survey result
			3_Report	Cordon_Survey_Report.pdf		Survey report
				Cordon_Survey_Report.docx		Survey report
	3_Screen	1_TOR_Survey_Form	1_TOR_Screen.docx		TOR	
			2_VehicleCount_Form.docx		Survey form	
			3_VehicleOccupancy_Form.docx		Survey form	
		2_Output	SC01	VehicleCount_SC01.xlsx		Survey result
				VehicleOccupancy_SC01.xlsx		Survey result
			SC02	VehicleCount_SC02 (1,2).xlsx		Survey result
				VehicleCount_SC02 (3,4).xlsx		Survey result
			SC03	VehicleCount_SC03.xlsx		Survey result
				VehicleOccupancy_SC03.xlsx		Survey result
			SC04	VehicleCount_SC04.xlsx		Survey result
				VehicleOccupancy_SC04.xlsx		Survey result
			SC05	VehicleCount_SC05.xlsx		Survey result
				VehicleOccupancy_SC05.xlsx		Survey result
SC06	VehicleCount_SC06.xlsx		Survey result			
	VehicleOccupancy_SC06.xlsx		Survey result			
SC07	VehicleCount_SC07.xlsx		Survey result			
	VehicleOccupancy_SC07.xlsx		Survey result			
SC08	VehicleCount_SC08.xlsx		Survey result			
	VehicleOccupancy_SC08.xlsx		Survey result			

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
			SC09	VehicleCount_SC09.xlsx	Survey result	
				VehicleOccupancy_SC09.xlsx	Survey result	
			SC10	VehicleCount_SC10.xlsx	Survey result	
				VehicleOccupancy_SC10.xlsx	Survey result	
			SC11	VehicleCount_SC11.xlsx	Survey result	
				VehicleOccupancy_SC11.xlsx	Survey result	
			SC12	VehicleCount_SC12.xlsx	Survey result	
				VehicleOccupancy_SC12.xlsx	Survey result	
			SC13	VehicleCount_SC13.xlsx	Survey result	
				VehicleOccupancy_SC13.xlsx	Survey result	
			SC14	VehicleCount_SC14.xlsx	Survey result	
				VehicleOccupancy_SC14.xlsx	Survey result	
			SC15	VehicleCount_SC15.xlsx	Survey result	
				VehicleOccupancy_SC15.xlsx	Survey result	
			SE01	VehicleCount_SE01.xlsx	Survey result	
				VehicleOccupancy_SE01.xlsx	Survey result	
			SE02	VehicleCount_SE02.xlsx	Survey result	
				VehicleOccupancy_SE02.xlsx	Survey result	
			SE03	VehicleCount_SE03.xlsx	Survey result	
				VehicleOccupancy_SE03.xlsx	Survey result	
			SE04	VehicleCount_SE04.xlsx	Survey result	
				VehicleOccupancy_SE04.xlsx	Survey result	
			SW01	VehicleCount_SW-01.xlsx	Survey result	
				VehicleOccupancy_SW-01.xlsx	Survey result	
		3_Report		Screen_Survey_Report.pdf	Survey report	
				Screen_Survey_Report.docx	Survey report	
	4_Public_Transportation_User_Interview	1_TOR_Survey_Form		1_TOR_PTUsers.docx	TOR	
				2_Interview_Form.docx	Survey form	
		2_Output		T1.xlsx	Survey result (Kamalapur Railway Station)	
				T2.xlsx	Survey result (Gabtali and its surrounding)	

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation	
						area)	
			T3.xlsx			Survey result (Mohakhali and its surrounding area)	
			T4.xlsx			Survey result (Saidabad and its surrounding area)	
			T5.xlsx			Survey result (Abdullahpur and its surrounding area)	
		3_Report	PTUser_Survey_Report.docx			Survey report	
	5_Road_Inventory	1_TOR_Survey_Form	1_TOR Road Inventory.docx			TOR	
			2_Road inventory survey form.xlsx			Survey form	
		2_Output	EXCEL SHEET CORRECTED.xlsx			Survey result	
			CROSS SECTION OF ROAD (CAD)	Location - 01.dwg			Cross section data (CAD format)
				Location - 02.dwg			Cross section data (CAD format)
				Location - 03.dwg			Cross section data (CAD format)
				Location - 04.dwg			Cross section data (CAD format)
				Location - 05.dwg			Cross section data (CAD format)
				Location - 06.dwg			Cross section data (CAD format)
				Location - 07.dwg			Cross section data (CAD format)
	Location - 08.dwg				Cross section data (CAD format)		
	Location - 09.dwg				Cross section data (CAD format)		
	Location - 10.dwg				Cross section data (CAD format)		
			Location - 11.dwg			Cross section data (CAD format)	

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				Location - 12.dwg		Cross section data (CAD format)
				Location - 13.dwg		Cross section data (CAD format)
				Location - 14.dwg		Cross section data (CAD format)
				Location - 15.dwg		Cross section data (CAD format)
				Location - 16.dwg		Cross section data (CAD format)
				Location - 17.dwg		Cross section data (CAD format)
				Location - 18.dwg		Cross section data (CAD format)
				Location - 19.dwg		Cross section data (CAD format)
				Location - 20.dwg		Cross section data (CAD format)
				Location - 21.dwg		Cross section data (CAD format)
				Location - 22.dwg		Cross section data (CAD format)
				Location - 23.dwg		Cross section data (CAD format)
				Location - 24.dwg		Cross section data (CAD format)
				Location - 25.dwg		Cross section data (CAD format)
				Location - 26.dwg		Cross section data (CAD format)
				Location - 27.dwg		Cross section data (CAD format)
				Location - 28.dwg		Cross section data (CAD format)
				Location - 29.dwg		Cross section data (CAD format)
				Location - 30.dwg		Cross section data

The Project on The Revision and Updating of the Strategic Transport Plan for Dhaka (RSTP)
 Technical Appendix: Database

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						(CAD format)
				Location - 31.dwg		Cross section data (CAD format)
				Location - 32.dwg		Cross section data (CAD format)
				Location - 33.dwg		Cross section data (CAD format)
				Location - 34.dwg		Cross section data (CAD format)
				Location - 35.dwg		Cross section data (CAD format)
				Location - 36.dwg		Cross section data (CAD format)
			CROSS SECTION OF ROAD (PDF)	Location - 01-Model.pdf		Cross section data (pdf)
				Location - 02-Model.pdf		Cross section data (pdf)
				Location - 03-Model.pdf		Cross section data (pdf)
				Location - 04-Model.pdf		Cross section data (pdf)
				Location - 05-Model.pdf		Cross section data (pdf)
				Location - 06-Model.pdf		Cross section data (pdf)
				Location - 07-Model.pdf		Cross section data (pdf)
				Location - 08-Model.pdf		Cross section data (pdf)
				Location - 09-Model.pdf		Cross section data (pdf)
				Location - 10-Model.pdf		Cross section data (pdf)
				Location - 11-Model.pdf		Cross section data (pdf)
				Location - 12-Model.pdf		Cross section data (pdf)
				Location - 13-Model.pdf		Cross section data (pdf)
				Location - 14-Model.pdf		Cross section data (pdf)
				Location - 15-Model.pdf		Cross section data (pdf)
				Location - 16-Model.pdf		Cross section data (pdf)
				Location - 17-Model.pdf		Cross section data (pdf)
				Location - 18-Model.pdf		Cross section data (pdf)
				Location - 19-Model.pdf		Cross section data (pdf)
				Location - 20-Model.pdf		Cross section data (pdf)
				Location - 21-Model.pdf		Cross section data (pdf)

The Project on The Revision and Updating of the Strategic Transport Plan for Dhaka (RSTP)
 Technical Appendix: Database

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				Location - 22-Model.pdf		Cross section data (pdf)
				Location - 23-Model.pdf		Cross section data (pdf)
				Location - 24-Model.pdf		Cross section data (pdf)
				Location - 25-Model.pdf		Cross section data (pdf)
				Location - 26-Model.pdf		Cross section data (pdf)
				Location - 27-Model.pdf		Cross section data (pdf)
				Location - 28-Model.pdf		Cross section data (pdf)
				Location - 29-Model.pdf		Cross section data (pdf)
				Location - 30-Model.pdf		Cross section data (pdf)
				Location - 31-Model.pdf		Cross section data (pdf)
				Location - 32-Model.pdf		Cross section data (pdf)
				Location - 33-Model.pdf		Cross section data (pdf)
				Location - 34-Model.pdf		Cross section data (pdf)
				Location - 35-Model.pdf		Cross section data (pdf)
				Location - 36-Model.pdf		Cross section data (pdf)
		3_Report	Road_Inventory_Survey_Report.pdf			Survey report
	6_Land_Use	1_TOR	1_TOR_LandUse			TOR
		2_Output	Gazipur	gazipur_dist_pline.shp		Survey output (GIS format)
				Konabari_bnd_Pline.shp		Survey output (GIS format)
				Konabari_Features.shp		Survey output (GIS format)
				Konabari_Landcover.shp		Survey output (GIS format)
				Konabari_Landcover_Dissolve.shp		Survey output (GIS format)
				Road_Konabari_Pline.shp		Survey output (GIS format)
				Road_Mouchak_Pline.shp		Survey output (GIS format)
			Keraniganj	Existing_Landuse_Keraniganj_Final.shp		Survey output (GIS format)
				Keraniganj_bnd_Pline.shp		Survey output (GIS format)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				Keraniganj_Poly.shp		Survey output (GIS format)
				Keraniganj_Road_Pline.shp		Survey output (GIS format)
				Keraniganj_Union_Pline.shp		Survey output (GIS format)
				Keraniganj_Waterbody.shp		Survey output (GIS format)
			Kishoreganj	kishoreganj_dist_pline.shp		Survey output (GIS format)
				kishoreganj_dist_poly.shp		Survey output (GIS format)
				Landcover_Bhairab.shp		Survey output (GIS format)
				Landcover_Bhairab_Dissolve.shp		Survey output (GIS format)
				Landmark_Bhairab.shp		Survey output (GIS format)
				Road_Netowrk_Bhairab.shp		Survey output (GIS format)
			Manikganj	Dhankora_Jaigir_Poly.shp		Survey output (GIS format)
				Landcover_Dhankora.shp		Survey output (GIS format)
				Landcover_Dhankora_Dissolve.shp		Survey output (GIS format)
				Landcover_Jaigir.shp		Survey output (GIS format)
				Landcover_Jaigir_Dissolve.shp		Survey output (GIS format)
				landmaks_dhankora_jaigir.shp		Survey output (GIS format)
				manikganj_dist_pline.shp		Survey output (GIS format)
				manikganj_dist_ploy.shp		Survey output (GIS format)
				Road_dhankora_jaigir.shp		Survey output (GIS format)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						format)
			Munshiganj	Landcover_Jamaldi.shp		Survey output (GIS format)
				Landcover_Jamaldi_Dissolve.shp		Survey output (GIS format)
				landcover_Munshiganj.shp		Survey output (GIS format)
				landcover_Munshiganj_Dissolve.shp		Survey output (GIS format)
				landmarks_jamaldi.shp		Survey output (GIS format)
				landmarks_Munshiganj.shp		Survey output (GIS format)
				munshiganj_dist_pline.shp		Survey output (GIS format)
				munshiganj_dist_poly.shp		Survey output (GIS format)
				munshiganj_Sadar_pline.shp		Survey output (GIS format)
				munshiganj_Sadar_poly.shp		Survey output (GIS format)
				River.shp		Survey output (GIS format)
				Road_Network_Jamaldi.shp		Survey output (GIS format)
				Road_Network_Munshiganj.shp		Survey output (GIS format)
			Narsingdhi	economic_zone_narsingdhi.shp		Survey output (GIS format)
				Landcover_Madhabdi.shp		Survey output (GIS format)
				Landcover_Madhabdi_Dissolve.shp		Survey output (GIS format)
				Landcover_Narsingdhi.shp		Survey output (GIS format)
				Landcover_Narsingdhi_Dissolve.shp		Survey output (GIS format)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				Landmarks_Narsingdhi.shp		Survey output (GIS format)
				narsingdhi_dist_pline.shp		Survey output (GIS format)
				narsingdhi_dist_poly.shp		Survey output (GIS format)
				Road_Network_Narsingdhi.shp		Survey output (GIS format)
	7_Socio-Economic	1_TOR	1_TOR_Socio-Economic.pdf			TOR
		2_Output	01 Socio-economic	0101 Population	AA01 In Migrants by Purpose - Domestic and International.xlsx	Number of in migrants by purpose (Domestic/International)
					AA02 Out Migrant.xlsx	Number of out migrants by purpose (Domestic/International)
					AA03 Ethnic Minority.xlsx	Population and location of indigenous people and ethnic minority
					AA04 Activity Status.xlsx	Population by activity status (Employed, looking for job and house work, etc)
				0102 Employment	AB01 Number of Employees by Sector -at Resident.xlsx	Number of employees by sector (at Resident)
					AB02 Unemployed Population.xlsx	Unemployed population by 5-year age group and sex
				0103 Education	AC01 Number of Educational Institution by level.xlsx	Number of educational institutions by level
				0104 Industry	AD01 Share of Manufacturing - Price or Volume.xlsx	Share of manufacturing (Price or volume)
					AD02 Number of	Number of companies

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
					Companies.xlsx	*Government, private and semi-government company
					AD03-04 Number of companies-industries location area in EPZ.xlsx	Location of industry estates and EPZs, Number of companies, Area in industrial estates and EPZs
				0105 GDP	AE01 GDP Growth Rate by Sector.xlsx	GDP growth rate by sector
				0110 Rights	AJ01a Bangladesh water act 2013 english.xlsx	Right of water, fishery and navigation of rivers and lakes
					AJ01b National Water Policy.xlsx	Right of water, fishery and navigation of rivers and lakes
				0111 Historical-Cultural Heritage	AK01 Historical Cultural Herigate.docx	Name and location of historical cultural heritage
				0112 Protected Landscape	AL01 Protected Landscape.docx	Location/area of protected landscape
				0113 Public Health	AM01 Crude Birth Rate.xlsx	Crude birth rate by 5-year age group and sex
					AM03 Infant Mortality Rate.xlsx	Infant mortality rate
					AM04 Total Fertility Rate.xlsx	Total fertility rate by 5-year age group and sex
					AM05 Source of Drinking Water 1991.xlsx	Population by source of drinking water
					AM06 Coverage of Sewarage.xlsx	Coverage of sewerage, covered area
			02 Transportation		BD01 Truck Terminal.xlsx	Number, location, area, capacity, charge of truck terminal

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				BE01 Launch Terminal.xlsx		Number of launch, route, capacity, fare of launch terminal
				BF01 Peripheral Water way-Description of the route-map drawing-number of the transports- fare.xlsx		Description of the route, map/ drawing, number of the transports, fare of waterway
				BG01 Bus Terminal.xlsx		Number, location, capacity, charge of bus terminal
				BH01 Number of registered buses by bus route.xlsx		Number of bus routes by bus type, route length, number of buses per route and company name (including Human Hauler)
				BI01 Railway operation.xlsx		Number of trains, timetable, stations break down, fare of railway
				BJ01 Number registered vehicles by vehicle type for last 15 years.xlsx		Number of registered vehicle by vehicle type
				New_Registration240814.xlsx		No. of new registered vehicles
				Number of fitness by vehicle type for last 15 years in GDA_2001-2014.xlsx		Number of fitness by vehicle type for last 15 years in GDA
				Number of registered buses by bus route-1.xlsx		Number of registered buses by bus route
				Origin_Destination points and actual route.xlsx		Origin and destination points and actual route of bus
				Passenger Steamer Service.xlsx		Passenger steamer service information
			03 Natural Environment	CA01 Climae-Metrology _ Temperature-precipitation.xlsx		Temperature, precipitation, wind

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						direction and speed (monthly average)
				CA01a 3-hourly Rainfall.txt		3-hourly rainfall
				CA01b Daily average Dry-Bulb Temperature.txt		Daily average Dry-Bulb temperature
				CA01c Daily & Monthly Total Rainfall.txt		Daily & monthly total rainfall
				CA01d Daily Prevailing Wind Speed in Knots and Direction.txt		Daily prevailing wind speed in knots and direction
				CA01e Daily,Monthly Max.& Mean Maximum Temperature.txt		Daily, monthly max.& mean maximum temperature
				CA01f Daily,Monthly Min.& Mean Minimum Temperature.txt		Daily, monthly max.& mean maximum temperature
				CB01 Protected Area.docx		National park, sanctuary, reserve, ecological critical area, etc.)
			04 Ambient Air Quality and Pollution Control	DA01 Ambient Quality		TSP, PM10, PM2.5, SO2, NOx, CO, O3, Pb
				DB01 Noise		Sound level
				DC01 Surface Water Quality		pH, DO, COD, BOD, TSS, Coliforms, Heavy metals, Hazardous chemicals
				DF01 Waste		Solid waste generation, location of disposal sites
				DH01 Odor		Acetaldehyde, Ammonia, Hydrogen Sulfide, etc.
			05 Disaster Defense and Water Control	EA01 Location and Name of rain-gauging station		Rain-gauging station
				EB01 3-hourly Rainfall.txt		Hourly rain data
				EB02 Daily and Monthly Total Rainfall.txt		Daily rain data

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
	8_Environment			EC01 Water Level Gauging Station.xlsx		Gauging station
				ED01 Water Level Data.xlsx		Water level data
		1_TOR		1_TOR_Environment.docx		TOR
		2_Output		01 Proposed Alignment Map of MRT L1_09062015.jpg		Proposed Alignment Map of MRT1
				03 Construction Options of MRT Line1.jpg		Construction Options of MRT1
				GeologyRoW.xlsx		Geology RoW
				Land Use Map of MRT Line 1.jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_01 (1).jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_01.jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_02.jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_03.jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_04.jpg		Land Use Map of MRT1
				Land Use Map of MRT Line 1_05.jpg		Land Use Map of MRT1
				Modified Alignment.jpg		Alignment of MRT1
				MRT1_102_Air and Noise Map_20150710.jpg		Air and Noise Map
				MRT1_107_Landuse_Strips.pdf		Land Use Map of MRT1
				MRT1_110_Earthquak.jpg		Earthquak Map
				Wards_AOI.xlsx		Ward information
				Photo	(55)SAM_4879.jpg etc.	Photos of site
			3_Report			
2_Socip-Economic	2001&2011_Population.xlsx				Population in 2001 and 2011	
	Socio-Economic_by_TAZ.xlsx				Socio-economic data by RSTP zone	
	Summary_Population_by_TAZ.xlsx				Population by RSTP zone	
3_Demand_Forecast	1_Zone_System	Zone_System.pdf			RSTP zone map	
		Zone_Map	RSTP_TAZ.pdf		RSTP traffic analysis zone	
			L_Zone.pdf		Large zone	
			大中ゾーン.pdf		Large and middle zone	
			DHUTS_TAZ		DHUTS zone	

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
		RSTP_TAZ_GIS	centroid_TAZ.shp			Zone centroid (GIS format)
			TAZ_ZONE_Revised_2015.shp			RSTP zone (GIS format)
	2_GA	GA.xlsx				Trip generation and attraction data
		STRADA	2014_with_Intra_Trip	LI.csv		Trip generation and attraction data in 2014 with intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2014 with intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2014 with intra trips of high income group (STRADA format)
			2014_without_Intra_Trip	LI.csv		Trip generation and attraction data in 2014 without intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2014 without intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2014 without intra trips of high income group (STRADA format)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
			2025_with_Intra_Trip	LI.csv		Trip generation and attraction data in 2025 with intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2025 with intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2025 with intra trips of high income group (STRADA format)
			2025_without_Intra_Trip	LI.csv		Trip generation and attraction data in 2025 without intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2025 without intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2025 without intra trips of high income group (STRADA format)
			2035_with_Intra_Trip	LI.csv		Trip generation and attraction data in 2035 with intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2035

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						with intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2035 with intra trips of high income group (STRADA format)
			2035_without_Intra_Trip	LI.csv		Trip generation and attraction data in 2035 without intra trips of low income group (STRADA format)
				MI.csv		Trip generation and attraction data in 2035 without intra trips of middle income group (STRADA format)
				HI.csv		Trip generation and attraction data in 2035 without intra trips of high income group (STRADA format)
	3_OD	1_HIS_Results	Definition.xlsx			Definitions of data
			1_OD_by_Mode	OD_by_mode.xlsx		OD data by mode based on HIS result
			2_OD_by_Income_by_porpose_by_mode	0-12.xlsx		OD (no income group, home to work trip)
				0-13.xlsx		OD (no income group, home to school trip)
				0-14.xlsx		OD (no income group, home to others trip)
				0-21.xlsx		OD (no income group, work to home trip)
				0-31.xlsx		OD (no income group, school to home trip)
				0-41.xlsx		OD (no income group,

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						others to home trip)
				0-44.xlsx		OD (no income group, non home based others trip)
				0-55.xlsx		OD (no income group, non home based business trip)
				L-12.xlsx		OD (low income group, home to work trip)
				L-13.xlsx		OD (low income group, home to school trip)
				L-14.xlsx		OD (low income group, home to others trip)
				L-21.xlsx		OD (low income group, work to home trip)
				L-31.xlsx		OD (low income group, school to home trip)
				L-41.xlsx		OD (low income group, others to home trip)
				L-44.xlsx		OD (low income group, non home based others trip)
				L-55.xlsx		OD (low income group, non home based business trip)
				M-12.xlsx		OD (middle income group, home to work trip)
				M-13.xlsx		OD (middle income group, home to school trip)
				M-14.xlsx		OD (middle income group, home to others trip)
				M-21.xlsx		OD (middle income group, work to home trip)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
				M-31.xlsx		OD (middle income group, school to home trip)
				M-41.xlsx		OD (middle income group, others to home trip)
				M-44.xlsx		OD (middle income group, non home based others trip)
				M-55.xlsx		OD (middle income group, non home based business trip)
				H-12.xlsx		OD (high income group, home to work trip)
				H-13.xlsx		OD (high income group, home to school trip)
				H-14.xlsx		OD (high income group, home to others trip)
				H-21.xlsx		OD (high income group, work to home trip)
				H-31.xlsx		OD (high income group, school to home trip)
				H-41.xlsx		OD (high income group, others to home trip)
				H-44.xlsx		OD (high income group, non home based others trip)
				H-55.xlsx		OD (high income group, non home based business trip)
				99-12.xlsx		OD (Not answer, home to work trip)
				99-13.xlsx		OD (Not answer, home to school trip)
				99-14.xlsx		OD (Not answer, home to others trip)
				99-21.xlsx		OD (Not answer, work

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation	
						to home trip)	
				99-31.xlsx		OD (Not answer, school to home trip)	
				99-41.xlsx		OD (Not answer, others to home trip)	
				99-44.xlsx		OD (Not answer, non home based others trip)	
				99-55.xlsx		OD (Not answer, non home based business trip)	
		2_Cordon_Result	Cordon_OD.xlsx			OD data by mode based on cordon line survey	
		3_by_Purpose	2014OD_by_Purpose.xlsx			OD in 2014 by purpose and income group	
			2025OD_by_Purpose.xlsx			OD in 2025 by purpose and income group	
			2035OD_by_Purpose.xlsx			OD in 2035 by purpose and income group	
			STRADA	2014		OD_pp_2014_LI.csv	OD in 2014 by purpose (low income group) (STRADA format)
						OD_pp_2014_MI.csv	OD in 2014 by purpose (middle income group) (STRADA format)
						OD_pp_2014_HI.csv	OD in 2014 by purpose (high income group) (STRADA format)
				2025		OD_pp_2025_LI.csv	OD in 2025 by purpose (low income group) (STRADA format)
						OD_pp_2025_MI.csv	OD in 2025 by purpose (middle income group) (STRADA format)
						OD_pp_2025_HI.csv	OD in 2025 by purpose (high income group) (STRADA format)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation	
				2035	OD_pp_2035_LI.csv	OD in 2035 by purpose (low income group) (STRADA format)	
					OD_pp_2035_MI.csv	OD in 2035 by purpose (middle income group) (STRADA format)	
					OD_pp_2035_HI.csv	OD in 2035 by purpose (high income group) (STRADA format)	
		4_by_Mode_(Assignment_OD)		OD_by_5modes.xlsx	STRADA	Assignment OD data	
						OD_5modes_2014.csv	Assignment OD in 2014 (STRADA format)
						OD_5modes_2025.csv	Assignment OD in 2025 (STRADA format)
						OD_5modes_2035.csv	Assignment OD in 2035 (STRADA format)
		4_Road_Network	Network.xlsx	Road network for assignment			
				STRADA	Network2014.csv	Road network for assignment in 2014 (STRADA format)	
	Network2025.csv				Road network for assignment in 2025 (STRADA format)		
	Network2035.csv		Road network for assignment in 2025 (STRADA format)				
	5_Transit_Network		Transit_Network.xlsx	Transit network for assignment			
				STRADA	Transit_Net_2014.csv	Transit network for assignment in 2014 (STRADA format)	
		Transit_Net_2025.csv			Transit network for assignment in 2025 (STRADA format)		
	Transit_Net_2035.csv	Transit network for assignment in 2035					

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation	
						(STRADA format)	
4_GIS	01_Boundary	thana_boundary_rajuk.shp				Thana boundary of RAJUK Area	
		Invidual_Thana.shp				Individual Thana boundary of RAJUK area	
		Large_Zone.shp				Large zone boundary	
		GDA_Union_Ward.shp				Greater Dhaka Area (GDA) Union/Ward boundary. (Six districts)	
		DHUTS_TAZ.shp				Boundary of DHUTS project traffic analysis zone (TAZ)	
		Large_TAZ_RSTP.shp				Large zone boundary of RSTP	
		TAZ_RSTP.shp				TAZ boundary of RSTP	
		Middle_Zone.shp				Middle zone boundary	
	02_Road	Inventory_RSTP.shp					Road inventory data of road network
		PP_Expresway.shp					Proposed expressway of RSTP
		PP_Road.shp					Proposed new road
		Proposed_Road_Network_Draft_RDP.shp					Proposed road network of RDP (RAJUK) project
		Upgrad_existing.shp					Upgrading of lane of existing road by RSTP
		Phase.shp					Phase wise road network by RSTP
		Project_RAJUK.shp					RAJUK road project
		project_RHD.shp					RHD road project
		BRT_MRT_Flyover_Overpass_ALL.shp					All BRT,MRT, flyover, overpass in one shapefile
		Primary_Secondary_Road_RSTP.shp					Proposed road project by RSTP with project

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
						number and type
	03_Bus_BRT	Dhaka Bus Routes_2014.shp				DMRTC bus route of 2014(DTCA)
		PR_BRT_2.shp				Proposed BRT Line 2 and node of this line (RSTP)
		PR_BRT_3.shp				Proposed BRT Line 3 and node of this line(RSTP)
		PR_BRT_7.shp				Proposed BRT Line 3 and node of this line(RSTP)
		Projected_HH_route.shp				Planned Human Haller route of RAJUK area (DTCA)
		existing_HH_Route.shp				Existing Human Haller route with total plan route, existing route and total issued No. of Human Haller
	04_Railway_MRT	PR_MRT_RSTP.shp				Proposed MRT line of RSTP
		PR_St_RSTP.shp				Proposed MRT station point of RSTP
		PR_MRT_2.shp				Proposed MRT 2 Line
		PR_MRT_4.shp				Proposed MRT 4 Line
		PR_MRT_5.shp				Proposed MRT 5 Line
		PR_MRT_6.shp				Proposed MRT 6 Line
		PR_MRT_2_Node.shp				Proposed MRT 2 Line node
		PR_MRT_4_Node.shp				Proposed MRT 4 Line node
		PR_MRT_5_Node.shp				Proposed MRT 5 Line node
		PR_MRT_6_node.shp				Proposed MRT 6 Line node

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
	05_OtherTransportFacilities	Ex_Bus_Terminal.shp				Location of existing bus terminal
		PP_Bus_terminal_RSTP.shp				Proposed location of bus terminal by RSTP
		Ex_Bus_Stoppage.shp				Existing location of bus stoppage of RAJUK area
		Buffer.shp				1/2 km buffer of bus stoppage
		Ex_BRTC_Bus_Stand.shp				Existing location of BRTC bus stand
		Ex_Ped_fec.shp				Existing location of foot over bridges and under pass
		Ex_Rickshaw_free_Road.shp				Existing Rickshaw free road of Dhaka city
		Ex_Truck_terminal.shp				Existing truck terminal
		Ex_water Terminal.shp				Existing water terminal location
		Dhanmondi_lake.shp				Shape of Dhanmondi lake
		Gulshan_lake.shp				Shape of Gulshan lake
		landing_Sta.shp				Existing BIWTA landing station
		Waterbody.shp				Shape of Shitalakha and Dhanu river
	06_TrafficSurvey	Car_2014_trip.shp				Zone to zone car trip(2014) (RSTP)
		Trip_withinZone_D.shp				Total trip within zone (D zone) high ,middle and low income to work
		LargeZ0ne_Trip_2015.shp				Large zone total trip(zone to zone) 2015
		MiddleZone_Total_Trip_2014_2035.shp				Total trip of car 2014, 2035(SC1), 2035(SC2)
		Low_Income_Trip_Dzone.shp				Low income trip to work (D zone)

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
		MidIncome_to_Work_Dzone.shp				Midincome to work total trip (D zone)
		Trip_Gen_Car_CNG_rikshaw_HighIncom.shp				No of trips of highIncome (Car, CNG, Rikshaw 2014, 2035(SC1), 2035(SC2))
	07_Landuse	LU_Final_2014.shp				Landuse of RAJUK area (2014)
		Konabari_Landcover_Dissolve.shp				Landcover of Konabari Upazila of RAJUK area
		Landcover_Jamaldi_Dissolve.shp				Landcover of Jamaldi Upazila of RAJUK area
		Mouchak_Landcover_dissolve.shp				Landcover of Mouchak Upazila of RAJUK area
	09_NaturalCondition	Noise_level_Dhaka.shp				Noise level of Dhaka city in dB
		Lake.shp				Baridhara ,Gulshan, Banani lake location of Dhaka city
		Park.shp				Location of existing park, garden, stadium, play ground of Dhaka
		Location_CAMS.shp				Location of monitoring network (CAMS1-5 location)
		Loc_River_water_collect.shp				Location of river water collection point
	10_SocioEconomic	Grid250m_TAZ_Code_wtPop.shp				250m Gride of RAJUK area
		%of_HHs_owned_Car.shp				Avg. HH income, No of HH owned MC, % of HH owned MC, No of HH owned Car, % of HH owned car, Day night ration etc
		PopDensity_AAGR_GDA.shp				Population, Density, AAGR of GDA area

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Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Explanation
	13_Others	Union_HQ_GDA.shp				Location of Union HQ of GDA Area
		Settlement_Pattern_GDA.shp				Settlement pattern of GDA area
5_CG_Movie	MRT_LINE1.avi					CG movie of MRT1

Source: JICA Study Team

3. HOUSEHOLD INTERVIEW SURVEY (HIS) DATA

RSTP Household interview survey (HIS) data was prepared based on the HIS conducted by RSTP in 2014 and DHUTS in 2009. Number of collected samples from both projects is total 45,009 samples.

3.1 Survey Form

The Household Interview Survey (HIS) consists of four (4) forms, namely:

(i) Form 1. Household Information

Form 1 was accomplished by the household head or of any adult household member, e.g. father or mother, who can provide reliable socio-economic information.

(ii) Form 2. Household Member Information

The Household Member Information Form was completed by each member of the household.

(iii) Form 3. Household Vehicle Information

This questionnaire is about the number of vehicles owned by the household and whose household member frequently used the vehicle.

(iii) Form 4. Daily Trip Information

Form 4 was completed by every member of the household who makes trips and is 10 years old and above. Information about all trips made by a trip maker was provided. These include trip origin and destination, departure and arrival times, trip purpose, trip cost, travel mode, and transfer points.

Actual survey forms were provided to RSTP database.

3.2 Household Information

The household information consists of 18 data items as follows:

Table 3.1 Household Information Items

Item	DHUTS	RSTP	Definitions
Source	No blank	No blank	1 = DHUTS, 2 = RSTP
Sample Number	No blank	No blank	Unique household code
HIS Zone	blank	No blank	HIS zone number
TAZ	No blank	No blank	RSTP TAZ
Larger Zone	No blank	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
House Ownership	blank	No blank	1=Own, 2=Rent
Rent Expense	blank	No blank	TK/Month
Electricity Expense	blank	No blank	TK/Month
Household Size	No blank	No blank	Person
Household Income	No blank	No blank	TK/Month/Household, -1: not answer
HhsIncomeLevel	No blank	No blank	House hold income was classified by 5000TK unit.
Household Income Group	No blank	No blank	0=0TK, 1=1-20000TK, 2=20001TK-50000TK, 3=50001TK-

Item	DHUTS	RSTP	Definitions
Bicycle	No blank	No blank	No. of owning bicycles
Motorcycle	No blank	No blank	No. of owning motorcycles
Car	No blank	No blank	No. of owning cars
Autorickshaw	No blank	No blank	No. of owning auto rickshaws
Other Automobiles	No blank	No blank	No. of owning other automobiles
ExpFactor	No blank	No blank	Expansion factor

Source: JICA Study Team

3.3 Household Member Information

The household member information consists of 33 data items as follows:

Table 3.2 Household Member Information

Items	DHUTS	RSTP	Definitions
Source	No blank	No blank	1 = DHUTS, 2 = RSTP
Sample Number	No blank	No blank	Unique household code
Member Code	No blank	No blank	Unique member code
HIS Zone	blank	No blank	HIS zone number of residence
TAZ	No blank	No blank	RSTP TAZ of residence
Larger Zone	No blank	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
Gender	No blank	No blank	1=Male, 2=Female
Age	No blank	No blank	Age
Driver's License	No blank	No blank	1=Own, 2=Not own
Motorcycle Ownership	blank	No blank	Number of Units (Vehicles for daily use only)
Car Ownership	blank	No blank	Number of Units (Vehicles for daily use only)
Employment	No blank	No blank	1=Worker, 2=Student, 3=Housewife, 4=Retired, disemployment
Primary Occupation	blank	No blank	1=Managers, 2=Professionals, 3=Technicians and Associate Professionals, 4=Clerical Support Workers, 5=Service and Sales Workers, 6=Skilled Agricultural, Forestry and Fishery Workers, 7=Craft and Related Trades Workers, 8=Plant and Machine Operators and Assemblers, 9=Elementary Occupations, 10=Armed Forces Occupations, 11=Unemployed, 12=Student, 13=Housewife, 14=Pensioner, 15=Others
Secondary Occupation	blank	Some blank	1=Managers, 2=Professionals, 3=Technicians and Associate Professionals, 4=Clerical Support Workers, 5=Service and Sales Workers, 6=Skilled Agricultural, Forestry and Fishery Workers, 7=Craft and Related Trades Workers, 8=Plant and Machine Operators and Assemblers, 9=Elementary Occupations, 10=Armed Forces Occupations, 11=Unemployed, 12=Student, 13=Housewife, 14=Pensioner, 15=Others

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Items	DHUTS	RSTP	Definitions
Detailed Employment Sector	blank	Some blank	1=Agriculture, forestry and fishing, 2=Mining and Quarrying, 3=Manufacturing unit, 4=Electricity, gas, steam and air conditioning supply, 5=Water supply; sewerage, waste management and remediation activities, 6=Construction, 7=Wholesale and retail trade; repair of motor vehicles and motorcycles, 8=Transportation and Storage, 9=Accommodation and food service activities, 10=Information and communication, 11=Financial and insurance activities, 12=Real estate activities, 13=Professional, scientific and technical activities, 14=Administrative and support service activities, 15=Public administration and defense; compulsory social security, 16=Education, 17=Human health and social work activities, 18=Arts, entertainment and recreation, 19=Other service activities, 20=Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use, 21=Activities of extraterritorial organizations and bodies, 22=Others
Rough Employment Sector	Some blank	Some blank	1=Primary, 2=Secondary, 3=Tertiary
Workplace (HIS Zone)	Some blank	Some blank	HIS zone
Workplace (TAZ)	Some blank	Some blank	RSTP TAZ
School Address (HIS Zone)	Some blank	Some blank	HIS zone
School Address (TAZ)	Some blank	Some blank	RSTP zone
Personal Income	No blank	No blank	TK/month
Adj Personal Income	No blank	No blank	TK/month
Personal Income Code based 2014	No blank	No blank	Personal income was classified by 5000TK unit.
Number of Trips	No blank	No blank	Trips
Household Income	No blank	No blank	TK/month, -1: not answer
Household's Motorcycle	No blank	No blank	No. of owning motorcycles
Household's Car	No blank	No blank	No. of owning cars
5-Year Age Group	No blank	No blank	Age group
School_Type	Some blank	Some blank	Estimated school type based on age
Grade	Some blank	Some blank	Estimated school grade based on age
WorkPlaceLargeZone	Some blank	Some blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
SchoolPlaceLargeZone	Some blank	Some blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
ExpFactorFinal	No blank	No blank	Expansion factor

Source: JICA Study Team

3.4 Household Vehicle Information

The household vehicle information shows number of owned vehicle units and user number.

3.5 Daily Trip Information

The daily trip information consists of 54 data items as follows:

Table 3.3 Daily Trip Information

Title	DHUTS	RSTP	Definitions
Source	No blank	No blank	1 = DHUTS, 2 = RSTP
Sample Number	No blank	No blank	Unique household code
Member Code	No blank	No blank	Unique member code
Trip Number	No blank	No blank	Unique trip code
Survey Date (day)	blank	No blank	
Survey Date (month)	blank	No blank	
Origin Type	blank	No blank	1 = Residence, 2 = Workplace, 3 = school, 4 = Other
Origin (HIS Zone)	blank	No blank	HIS zone
Origin (TAZ)	No blank	No blank	RSTP TAZ
Origin (Larger Zone)	No blank	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
DestinationTypeEst	blank	No blank	1 = Residence, 2 = Workplace, 3 = school, 4 = Other
Destination (HIS Zone)	blank	No blank	HIS zone
Destination (TAZ)	No blank	No blank	RSTP TAZ
Destination (Larger Zone)	No blank	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
Departure Time (hour)	Some blank	No blank	
Departure Time (minute)	Some blank	No blank	
Arrival Time (hour)	Some blank	No blank	
Arrival Time (minute)	Some blank	No blank	
Travel Time	Some blank	No blank	min
PurposeC_Est	No blank	No blank	Trip purpose, 12= Home to Work, 13=Home to School, 14=Home to Other, 21=Work to Home, 31=School to Home, 41=Other to Home, 44=Non home based other, 55=Non home based business
Consolidated Trip Purpose	No blank	No blank	Trip purpose, 1 = To Work, 2 = To School, 3 =Other, 4 = Work to Home, 5 = School to Home, 6 = Other to Home, 7 = To Home
Trip Cost	blank	No blank	TK
Principal Travel Mode	No blank	No blank	See table below
Mode 1	No blank	No blank	See table below
Time 1	blank	No blank	min
1st Transfer (HIS Zone)	blank	Some blank	HIS zone
1st Transfer (TAZ)	blank	Some blank	RSTP TAZ
Mode 2	Some blank	Some blank	
Time 2	blank	Some blank	
2nd Transfer (HIS Zone)	blank	Some blank	
2nd Transfer (TAZ)	blank	Some blank	
Mode 3	Some blank	Some blank	
Time 3	blank	Some blank	
3rd Transfer (HIS Zone)	blank	Some blank	
3rd Transfer (TAZ)	blank	Some blank	
Mode 4	Some blank	Some blank	
Time 4	blank	Some blank	

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Title	DHUTS	RSTP	Definitions
4th Transfer (HIS Zone)	blank	Some blank	
4th Transfer (TAZ)	blank	Some blank	
Mode 5	Some blank	Some blank	
Time 5	blank	Some blank	
5th Transfer (HIS Zone)	blank	Some blank	
5th Transfer (TAZ)	blank	Some blank	
Mode 6	blank	Some blank	
Time 6	blank	Some blank	
6th Transfer (HIS Zone)	blank	Some blank	
6th Transfer (TAZ)	blank	Some blank	
Mode 7	blank	Some blank	
Time 7	blank	Some blank	
7th Transfer (HIS Zone)	blank	Some blank	
7th Transfer (TAZ)	blank	Some blank	
Mode 8	blank	Some blank	
Time 8	blank	Some blank	
ExpFAdj	No blank	No blank	Expansion Factor

Source: JICA Study Team

Table 3.4 Travel Mode Code

No.	Mode	Priority
1	Walking	19
2	Bicycle	17
3	Motorcycle	13
4	Rickshaw	16
5	CNG/Mishuk/Auto (private)	12
6	CNG/Mishuk/Auto (public)	8
7	Car	11
8	Taxi	9
9	Auto tempo/Laguna/Maxi	6
10	Microbus/Jeep	7
11	Minibus/Bus	5
12	AC Bus	2
13	Staff Bus	4
14	School Van	15
15	School Bus	3
16	Truck	10
17	Water Transport	14
18	Train	1
19	Others	18

JICA Study Team

4. CORDON LINE AND SCREEN LINE SURVEY DATA

4.1 Survey Outline

The cordon line survey and the screen line survey were conducted in 35 stations (13 outer cordon line stations, 11 inner cordon line stations and 11 public mode terminals) and 20 stations respectively. Traffic volume, vehicle occupancy and trip information (e.g., origin and destination, purpose, freight, access/egress mode etc.) were observed in cordon line stations. On the other hand, traffic volume and vehicle occupancy only were recorded in screen line stations. The traffic volume was recorded by every 30 minutes, vehicle type, and direction.

The vehicles should be classified as follows: (i) Bicycle, (ii) Motorcycle, (iii) Rickshaw, (iv) CNG/ Mishuk/ Auto, (v) Car, (vi) Taxi, (vii) Auto Tempo/ Laguna/ Maxi, (viii) Microbus/ Jeep, (ix) Minibus/ Bus, (x) AC Bus. (xi) Staff Bus, (xii) School Van, (xiii) school/ College/ University Bus, (xiv) Truck 3-Axle/ Truck Trailer, (xv) Tanker/ Tank Lorry, (xvi) Medium Truck/ Truck 2-Axle, (xvii) Pick-up/ Small Van and (xviii) others. For the vehicle occupancy survey, traffic counters recorded the number of passengers of the surveyed vehicles chosen at random by hour, vehicle type, and direction. The roadside OD interview was conducted by interviewers to get trip information from private transportation drivers, public transportation passengers/drivers, and freight mode drivers.

4.2 OD Information Code

The OD information was consisted of 54 items as shown in the table below.

Table 4.1 OD Information

Title	Blank/ No blank	Definitions
Source	No blank	3: Cordon Line Survey by RSTP
Sample Number	No blank	Unique sample code
Member Code	No blank	Unique member code
Trip Number	No blank	Unique trip code
Target Date (day)	blank	
Target Date (month)	blank	
Origin Type	blank	1 = Residence, 2 = Workplace, 3 = school, 4 = Other
Origin (HIS Zone)	No blank	HIS zone
Origin (TAZ)	No blank	RSTP TAZ
Origin (Larger Zone)	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
Destination Type	blank	1 = Residence, 2 = Workplace, 3 = school, 4 = Other
Destination (HIS Zone)	No blank	HIS zone
Destination (TAZ)	No blank	RSTP TAZ
Destination (Larger Zone)	No blank	RSTP larger zone, 1=South Dhaka, 2=West Dhaka, 3=Airpot, Gulshang, 4=Purbachar, 5=Eastern Fringe, 6=Tongi, 7=Gazipur, 8=Kaliganj, 9=Rupganj, 10=Bandar and Sonargaon, 11=Narayanganj, 12=Keraniganj, 13=Savar South, 14=EPZ, Saver North and Gazipur
Departure Time (hour)	blank	
Departure Time (minute)	blank	
Arrival Time (hour)	blank	
Arrival Time (minute)	blank	
Travel Time	blank	min

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Title	Blank/ No blank	Definitions
Detailed Trip Purpose	Some blank	Trip purpose, 12= Home to Work, 13=Home to School, 14=Home to Other, 21=Work to Home, 31=School to Home, 41=Other to Home, 44=Non home based other, 55=Non home based business
Consolidated Trip Purpose	No blank	Trip purpose, 1 = To Work, 2 = To School, 3 =Other, 4 = Work to Home, 5 = School to Home, 6 = Other to Home, 7 = To Home
Trip Cost	blank	TK
Principal Travel Mode	No blank	See Table 3.4
Mode 1	No blank	See Table 3.4
Time 1	blank	min
1st Transfer (HIS Zone)	blank	HIS zone
1st Transfer (TAZ)	blank	RSTP TAZ
Mode 2	blank	
Time 2	blank	
2nd Transfer (HIS Zone)	blank	
2nd Transfer (TAZ)	blank	
Mode 3	blank	
Time 3	blank	
3rd Transfer (HIS Zone)	blank	
3rd Transfer (TAZ)	blank	
Mode 4	blank	
Time 4	blank	
4th Transfer (HIS Zone)	blank	
4th Transfer (TAZ)	blank	
Mode 5	blank	
Time 5	blank	
5th Transfer (HIS Zone)	blank	
5th Transfer (TAZ)	blank	
Mode 6	blank	
Time 6	blank	
6th Transfer (HIS Zone)	blank	
6th Transfer (TAZ)	blank	
Mode 7	blank	
Time 7	blank	
7th Transfer (HIS Zone)	blank	
7th Transfer (TAZ)	blank	
Mode 8	blank	
Time 8	blank	
Expf	No blank	Expansion Factor

Source: JICA Study Team

5. PUBLIC TRANSPORTATION USERS' OPINION SURVEY DATA

5.1 Survey Outline

The public transportation users' opinion survey was conducted to collect the trip information and opinion of public transportation users. The survey locations were 5 public transport terminals in Dhaka. Passengers arriving at public transport terminals were randomly sampled and interviewed. The survey form included Passenger's trip information, Willingness to pay for time saving, Perceptions on the level of present public transport services and Socio-economic characteristics of the passenger. The following seven travel modes are evaluated with the survey; Railway, Inter-city air-conditioned bus, Intra-city bus, Intra-city minibus, Auto tempo/Laguna/Maxi, CNG/Mishuk/Auto and Rickshaw.

5.2 Data Code

The collected information was consisted of 34 items as shown in the table below.

Table 5.1 Definitions of Public Transportation Users' Opinion Survey Data

Title	Blank/ No blank	Definitions
ID	No blank	Unique code
Time (hour)	No blank	Surveyed Time (hour)
Time (minute)	No blank	Surveyed Time (minute)
Q1	No blank	Access mode, 1. Railway, 2. Intra-city AC bus, 3. Intra-city Bus, 4. Minibus, 5. Auto tempo/Laguna/Maxi, 6. CNG/Mishuk/Auto, 7. Rickshaw
Q2	No blank	Trip purpose, 1. To home, 2. To work, 3. To school / Education, 4. Business, 5. Private, 6. Others
Q3 (hour)	No blank	Travel Time
Q3 (minute)	No blank	Travel Time
Q4	No blank	Travel cost
Q5 (choice)	Some blank	Willingness to pay
Q5 (answer)	Some blank	Willingness to pay
Q6	Some blank	Willingness to pay
Q7-1	Some blank	Assessment of the service of the mode, Travel time , 1. Very good, 2. Good, 3. Fair, 4. Bad, 5. Very bad
Q7-2	Some blank	Assessment of the service of the mode, Cost / Fare
Q7-3	Some blank	Assessment of the service of the mode, Frequency
Q7-4	Some blank	Assessment of the service of the mode, Punctuality
Q7-5	Some blank	Assessment of the service of the mode, Operation time
Q7-6	Some blank	Assessment of the service of the mode, Crowdedness in the vehicle
Q7-7	Some blank	Assessment of the service of the mode, Comfort in the vehicle
Q7-8	Some blank	Assessment of the service of the mode, Safety in the vehicle
Q7-9	Some blank	Assessment of the service of the mode, Air quality in the vehicle
Q7-10	Some blank	Assessment of the service of the mode, Noise levels in the vehicle
Q7-11	Some blank	Assessment of the service of the mode, Cleanliness in the vehicle
Q7-12	Some blank	Assessment of the service of the mode, Driver's/Conductor's behavior
Q7-13	Some blank	Assessment of the service of the mode, Easiness of transfer to another mode
Q7-14	Some blank	Assessment of the service of the mode, Waiting conditions (safety, air quality, noise, shade, etc.)
Q7-15	Some blank	Assessment of the service of the mode, Information provision (announce, route map, etc.)
Q7-16	Some blank	Assessment of the service of the mode, Route network
Q7-17	Some blank	Assessment of the service of the mode, Number of stops

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Title	Blank/ No blank	Definitions
Q7-18	Some blank	Assessment of the service of the mode, Accessibility to bus stop or route
Q8	No blank	Gender, 1. Male, 2. Female
Q9	No blank	Age, 1. 15 – 19 years old, 2. 20 – 29 years old, 3. 30 – 39 years old, 4. 40 – 49 years old, 5. 50 – 59 years old, 6. 60 – 69 years old, 7. Over 70 years old
Q10	No blank	Motorcycle Owning, 1. Yes, 2. No
Q11	No blank	Car Owning, 1. Yes, 2. No
Q12	Some blank	Monthly family income, 1. Below 2,000, 2. 2,000 – 3,999, 3. 4,000 – 5,999, 4. 6,000 – 7,999, 5. 8,000 – 9,999, 6. 10,000 – 11,999, 7. 12,000 – 13,999, 8. 14,000 – 15,999, 9. 16,000 – 17,999, 10. 18,000 – 19,999, 11. 20,000 and above

Source: JICA Study Team

6. DATA OF OTHER SURVEYS

RSTP was conducted the road inventory survey, the land use survey, the socio-economic survey and the environment survey also. The following table explains the outline of surveys. The TOR, output data and survey report were available in the RSTP database.

Table 6.1 Outline of Surveys

Survey Title	Outline of Survey	Output Data
Road inventory survey	The objectives of the Road Inventory Survey are as follows: (i) To collect data on the present condition of the existing roads. (ii) To compile the collected data. The target locations of the road inventory survey are 35 locations.	Road No. and name Typical cross section and the condition <ul style="list-style-type: none"> • Location of observed typical cross section • Divided or undivided • No. of lanes • Carriageway width • Pavement type and condition of carriageway • Sidewalk type and condition • ROW (Right of way) width • Rickshaw road
Survey on Updating Land Use Map for RAJUK Area and Preparing Land Cover Map for GDA	The main objective of this survey is to obtain the land use conditions in the main development area of Greater Dhaka Area based on the land use map prepared by DHUTS and RAJUK and land cover map of Greater Dhaka Area prepared by Local Government Engineering Department.	Current land use and urban development conditions in Keraniganj. Administrative boundaries, physical infrastructures, natural features and socio-economic infrastructures in Gazipur, Keraniganj, Kishoreganj, Manikganj, Munshiganj and Narsingdhi.
Socio economic and natural environment survey	The main objective of this survey is to collect and analyze the following activities and conditions to understand current and future urban development in the GDA. <ul style="list-style-type: none"> • Demographic and socio economic activities • Natural and social environment activities • Disaster protection and flood control activities 	<ul style="list-style-type: none"> • Socio economic data • Transportation data • Natural environment data • Ambient Air Quality and Pollution Control • Disaster defense and Water Control
Survey of Environmental and Social Impact Assessment	The objectives of the Work are: <ol style="list-style-type: none"> 1) To analyze the baseline information on the natural and social environmental in the study area; 2) To conduct the filed measurements of ambient air quality and noise; 3) To assist the Consultant to carry out SEA for the project alternatives of the public transport system; 4) To conduct the survey on the affected structures and households due to the selected priority project of BRT/MRT system; 5) To conduct scoping for the selected priority project of BRT/MRT system; 6) To prepare the materials for, and facilitate and assist in the conduct of the stakeholder consultation meetings, to be hosted by DTCA, in coordination with DTCA and the Consultants; and, 7) To prepare the ESIA report. 	<ul style="list-style-type: none"> • Policy, Legal and Administrative Framework • Environmental data

Source: JICA Study Team

7. SOCIO-ECONOMIC DATA

The following indicators were prepared as socio-economic indicators by zone in 2014, 2025 and 2035. These were used as input data for the demand forecasting. The other socio-economic data are available in the output folder of the socio-economic survey.

Table 7.1 Socio-Economic Indicators

Year	Night/ Day	Income level	Indicators
2014	Night/ Day	Low/ Middle/ High	Employed population by sector
			No. of students by school type
			Total population
2025/ 2035	Night	Low/ Middle/ High	Employed population by sector
			No. of students by school type
			Total population
2025/ 2035	Day	Low/ Middle/ High	Employed population by sector
			No. of students by school type

Source: JICA Study Team

8. DEMAND FORCAST DATA

As demand forecast data, Generation and Attraction data, OD tables, zoning systems and networks, were contained to RSTP database. Some data were prepared by JICA STRADA format also.

8.1 Zoning Systems

As zoning systems data, zone system table, GIS file and zone maps were contained to database.

8.2 Generation and Attraction Data

The generation and attraction trips by income level and trip purpose and zone in 2014, 2025 and 2035 were prepared as shown in table below.

Table 8.1 Generation and Attraction Data

Data Type	Year	Income level	Trip purpose
Trip generation and attraction with/ without Intra trips	2014*/ 2025/ 2035	Low/ Middle/ High	Home to Work
			Home to School
			Home to Other
			Work to Home
			School to Home
			Other to Home
			Non Home Based Others
			Non Home Based Business

*2014 data excludes trips from "No income HH" and "Unanswered HH".

Source: JICA Study Team

8.3 OD Tables

The prepared OD tables were shown in table below.

Table 8.2 OD Tables

Folder Name	Year	Type
HIS results	2014	By mode, By mode, income level and trip purpose
Cordon results	2014	By mode
By purpose ¹	2014/ 2025/ 2035	By income level and trip purpose
By mode ²	2014/ 2025/ 2035	By mode

*1: 2014 OD excludes "No income HH" and "Unanswered HH" trips. 2025 & 2035 OD exclude intra trips. External zones are not included.

*2: 2025 & 2035 OD exclude intra trips. 2025 & 2035 OD were developed based on RSTP master plan network.
 Source: JICA Study Team

8.4 Networks

Networks in 2014, 2025 and 2035 were contained to the database. The following tables show the code of link information in the network and the node information.

Table 8.3 Link Information

Items	Explanation	Code
A, B	Node number	
Distance	Link distance (km)	
V_Max	Maximum velocity (km/h)	
Lanes	Number of lanes per direction (lane/dirction)	
Daily_Cap	Daily capacity (pcu/day)	
LNK_Name	Link name	
Future_Net	Existing	0
	Future Network (~2035)	1
	Future Network (~2025)	2
	Road Expansion (~2025)	3
Rev	One way	1
	Both way	2
LNK_Toll	Not toll road	0
	Toll road	1
SC/CL	Non	0
	Screen Line	1
	Inner Cordon Line	2
	Outer Cordon Line	3
LNK_Type	Centroid Connector	0
	Road	1
	IRR 2025	2
	MRR 2025	3
	MRR 2035	4
	Primary 2025	5
	Primary 2035	6
	Secondary 2025	7
	Secondary 2035	8
	Jatrabari Flyover	11
	Outer Ring Road Expressway	12
	Dhaka-Ashuliav Elevated Exp.	13
	Dhaka Elevated Exp.	14
	Dhaka-Mawa Exp.	15
	Dhaka-Chittagon HW	16
	Dhaka-Sylhet	17
	Dhaka-Mymensingh	18
	BR	101
	MRT1	102
	MRT2	103
BRT3	104	
MRT4	105	
MRT5	106	
MRT6	107	
BRT7	108	
BRT2 (2025)	109	
LNK_Mode	Centroid Connector	0
	Road	1
	Access Link (Entry & Exit) of toll road	11
	Main Link of toll road	13
	Rail Link	101
	Access Link (Entry & Exit) of rail	102
LNK_Loc	Centroid Connector	0
	TAZ=	1-195

Source: JICA Study Team

Table 8.4 Node Information

Node Type	Node Number
Centroid	1-195
Road	1001-
Jatrabari Flyover	4001-4019
Mohakari Flyover	4051-4053
Future Road	2001-
BR	5001-5032
MRT1	5101-
MRT2	5201-
BRT3	5301-
MRT4	5401-
MRT5	5501-
MRT6	5601-
BRT7	5701-
BRT2 (2025)	5801-

Source: JICA Study Team

9. GIS Data

The following data were consisted of the RSTP database. All GIS data were prepared by Arc GIS format.

Table 9.1 GIS Data

Data Type	Data Explanation
Boundary	Thana boundary of RAJUK Area
	Individual Thana boundary of RAJUK area
	Large zone boundary
	Greater Dhaka Area (GDA) Union/Ward boundary. (Six districts)
	Boundary of DHUTS project traffic analysis zone (TAZ)
	Large zone boundary of RSTP
	TAZ boundary of RSTP
	Middle zone boundary
Road	Road inventory data of road network
	Proposed expressway of RSTP
	Proposed new road
	Proposed road network of RDP (RAJUK) project
	Upgrading of lane of existing road by RSTP
	Phase wise road network by RSTP
	RAJUK road project
	RHD road project
	All BRT,MRT, flyover, overpass in one shapefile
	Proposed road project by RSTP with project number and type
Bus, BRT	DMRTC bus route of 2014(DTCA)
	Proposed BRT Line 2 and node of this line (RSTP)
	Proposed BRT Line 3 and node of this line(RSTP)
	Proposed BRT Line 3 and node of this line(RSTP)
	Planned Human Haller route of RAJUK area (DTCA)
	Existing Human Haller route with total plan route, existing route and total issued No. of Human Haller
Railway, MRT	Proposed MRT line of RSTP
	Proposed MRT station point of RSTP
	Proposed MRT 2 Line
	Proposed MRT 4 Line
	Proposed MRT 5 Line
	Proposed MRT 6 Line
	Proposed MRT 2 Line node
	Proposed MRT 4 Line node

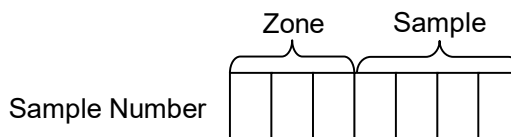
The Project on The Revision and Updating of the Strategic Transport Plan for Dhaka (RSTP)
 Technical Appendix: Database

	Proposed MRT 5 Line node
	Proposed MRT 6 Line node
Other Transport Facilities	Location of existing bus terminal
	Proposed location of bus terminal by RSTP
	Existing location of bus stoppage of RAJUK area
	1/2 km buffer of bus stoppage
	Existing location of BRTC bus stand
	Existing location of foot over bridges and under pass
	Existing Rickshaw free road of Dhaka city
	Existing truck terminal
	Existing water terminal location
	Shape of Dhanmondi lake
	Shape of Gulshan lake
	Existing BIWTA landing station
	Shape of Shitalakha and Dhanu river
	Traffic Survey
Total trip within zone (D zone) high ,middle and low income to work	
Large zone total trip(zone to zone) 2015	
Total trip of car 2014, 2035(SC1), 2035(SC2)	
Low income trip to work (D zone)	
Midincome to work total trip (D zone)	
No of trips of highIncome (Car, CNG, Rikshaw 2014, 2035(SC1), 2035(SC2))	
Land use	Landuse of RAJUK area (2014)
	Landcover of Konabari Upazila of RAJUK area
	Landcover of Jamaldi Upazila of RAJUK area
	Landcover of Mouchak Upazila of RAJUK area
Natural Condition	Noise level of Dhaka city in dB
	Baridhara ,Gulshan, Banani lake location of Dhaka city
	Location of existing park, garden, stadium, play ground of Dhaka
	Location of monitoring network (CAMS1-5 location)
	Location of river warter collection point
Socio Economic	250m Grde of RAJUK area
	Avg. HH income, No of HH owned MC, % of HH owned MC, No of HH owned Car, % of HH owned car, Day night ration etc
	Population, Density, AAGR of GDA area
Others	Location of Union HQ of GDA Area
	Settlement pattern of GDA area

Source: JICA Study Team

Annexes

ANNEX 1 Household Interview Survey Forms



**Household Interview Survey
 Form 1: Household Information**

For Official Use

Surveyor: _____

Supervisor: _____

Coder: _____

Checked by: _____

Reason, if any, for being incomplete: _____

Remarks: _____

Q1-1 Household head's name _____

Q1-2 Household address

Q1-3 Contactable telephone number _____

Q1-4 Do you own your house or rent? **1. Own** **2. Rent**

Q1-5 If rented, how much do you pay per month? _____ Tk/Month

Q1-6 How much do you pay for electricity? _____ Tk/Month

**Household Interview Survey
Form 2: Household Member Information (1/2)**

Sample Number

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

Member Code	Full Name	Relationship	Gender	Age	Education Level	Licensed Driver	Employed	Occupation			Employment Sector	
		Code	1.Male 2.Female		Code	1. Yes 2. No	Code	Primary	Code	Secondary	Code	Sector
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

<p align="center">Relationship</p> <ol style="list-style-type: none"> Self Father Mother Child Grandparent Aunt/Uncle Son/Daughter-in-law Nephew/Niece Servant/Driver/Etc. Wife/Husband Brother/Sister Grand Children Others, specify 	<p align="center">Education Level</p> <ol style="list-style-type: none"> Illiterate Primary SSC (High School) HSC or Equivalent Graduate Post Graduate Technical / Diploma Others, specify 	<p align="center">Employed</p> <ol style="list-style-type: none"> Full time Part time Unemployed Retired Others, specify 	<p align="center">Occupation</p> <ol style="list-style-type: none"> Managers Professionals Technicians and Associate Professionals Clerical Support Workers Service and Sales Workers Skilled Agricultural, Forestry and Fishery Workers Craft and Related Trades Workers Plant and Machine Operators and Assemblers Elementary Occupations Armed Forces Occupations Unemployed Student Housewife Pensioner Others 	<p align="center">Employment Sector</p> <ol style="list-style-type: none"> Agriculture, forestry and fishing Mining and Quarrying Manufacturing unit Electricity, gas, steam and air conditioning supply Water supply; sewerage, waste management and remediation activities Construction Wholesale and retail trade; repair of motor vehicles and motorcycles Transportation and Storage Accommodation and food service activities Information and communication Financial and insurance activities Real estate activities Professional, scientific and technical activities Administrative and support service activities Public administration and defense; compulsory social security Education Human health and social work activities Arts, entertainment and recreation Other service activities Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use Activities of extraterritorial organizations and bodies Others
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**Household Interview Survey
 Form 2: Household Member Information (2/2)**

Member Code	Address of Workplace		Personal Monthly Income (Tk/Month)	Student 1. Yes 2. No	Address of School / College / University		Participation	Mobile Phone Number	Operator
		Code				Code			
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Pilot Study Using Mobile Phones

The University of Tokyo, Japan is conducting a pilot study to examine the possibility of using mobile phones to complement household interview surveys. It involves the analysis of the Call Detail Record (CDR), which shows call durations, as well as approximate locations where calls were made and text messages were sent from.

If you agree to participate in the study, please let us know your mobile phone number and operator company. Rest assured that no information to identify you or the location of your house is kept in the CDR. Data collection will stop when the household survey ends. All data will be treated with utmost confidentiality.

Willingness to Participate in the Pilot Study

1. Yes
 2. No
 3. Don't have a mobile phone

Mobile Phone Operator

1. Grameenphone
 2. Airtel
 3. Banglalink
 4. Citycell
 5. Robi
 6. Teletalk

Sample Number

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

**Household Interview Survey
 Form 3: Household Vehicle Information**

How many vehicles does your household own and which household member mostly uses each vehicle?

Type	a. Number of Units (All owned vehicles)	b. Number of Units (Vehicles for daily use only)	c. Who mostly uses each vehicle? (Please indicate member codes in Form 2)
1. Bicycle			
2. Motorcycle			
3. Car			
4. Private Autorickshaw			
5. Other Automobiles			

Form 4: Trip Record (Page 1)

Sample Number:

Member Code:

Target Date: _____

Trip Purpose Code

1. To home
2. To Work
3. To School
4. To Market/Shop
5. Social/Family or Friend Visit
6. Recreation
7. Religious
8. Medical
9. Business
10. Salesman/Delivery
11. Others (please specify)

Where were you at 3 AM on that day?

1. Your home 2. Your workplace 3. Your school		
4. Others (Please specify the address)		
Union/Ward		
Thana/Upzila	District	
	<input type="text"/>	<input type="text"/>
Landmark (if you don't know the exact address)		

1st Destination

1. Your home 2. Your workplace 3. Your school		
4. Others (Please specify the address)		
Union/Ward		
Thana/Upzila	District	
	<input type="text"/>	<input type="text"/>
Landmark (if you don't know the exact address)		

2nd Destination

1. Your home 2. Your workplace 3. Your school		
4. Others (Please specify the address)		
Union/Ward		
Thana/Upzila	District	
	<input type="text"/>	<input type="text"/>
Landmark (if you don't know the exact address)		

3rd Destination

1. Your home 2. Your workplace 3. Your school		
4. Others (Please specify the address)		
Union/Ward		
Thana/Upzila	District	
	<input type="text"/>	<input type="text"/>
Landmark (if you don't know the exact address)		

To page 2

Travel Mode Code

1. Walking
2. Bicycle
3. Motorcycle
4. Rickshaw
5. CNG/Mishuk/Auto (private)
6. CNG/Mishuk/Auto (public)
7. Car
8. Taxi
9. Auto tempo/Laguna/Maxi
10. Microbus/Jeep
11. Minibus/Bus
12. AC Bus
13. Staff Bus
14. School Van
15. School/College/University Bus
16. Truck
17. Boat
18. Ferry
19. Rail
20. Others

Departure and Arrival Time	: : Departure Time Arrival Time	
Trip Purpose	Purpose	
	If others, please specify	
Trip Cost	Tk	
Travel Mode, Travel Time and Transfer Point	Origin	
	↓	Mode: Time: hrs mins
	1st transfer point	
	↓	Mode: Time: hrs mins
	2nd transfer point	
	↓	Mode: Time: hrs mins
	3rd transfer point	
	↓	Mode: Time: hrs mins
	4th transfer point	
	↓	Mode: Time: hrs mins
5th transfer point		
↓	Mode: Time: hrs mins	
6th transfer point		
↓	Mode: Time: hrs mins	
7th transfer point		
↓	Mode: Time: hrs mins	
1st Destination		

Departure and Arrival Time	: : Departure Time Arrival Time	
Trip Purpose	Purpose	
	If others, please specify	
Trip Cost	Tk	
Travel Mode, Travel Time and Transfer Point	1st Destination	
	↓	Mode: Time: hrs mins
	1st transfer point	
	↓	Mode: Time: hrs mins
	2nd transfer point	
	↓	Mode: Time: hrs mins
	3rd transfer point	
	↓	Mode: Time: hrs mins
	4th transfer point	
	↓	Mode: Time: hrs mins
5th transfer point		
↓	Mode: Time: hrs mins	
6th transfer point		
↓	Mode: Time: hrs mins	
7th transfer point		
↓	Mode: Time: hrs mins	
2nd Destination		

Departure and Arrival Time	: : Departure Time Arrival Time	
Trip Purpose	Purpose	
	If others, please specify	
Trip Cost	Tk	
Travel Mode, Travel Time and Transfer Point	2nd Destination	
	↓	Mode: Time: hrs mins
	1st transfer point	
	↓	Mode: Time: hrs mins
	2nd transfer point	
	↓	Mode: Time: hrs mins
	3rd transfer point	
	↓	Mode: Time: hrs mins
	4th transfer point	
	↓	Mode: Time: hrs mins
5th transfer point		
↓	Mode: Time: hrs mins	
6th transfer point		
↓	Mode: Time: hrs mins	
7th transfer point		
↓	Mode: Time: hrs mins	
3rd Destination		

Form 4: Trip Record (Page 2)

Trip Purpose Code

1. To home
2. To Work
3. To School
4. To Market/Shop
5. Social/Family or Friend Visit
6. Recreation
7. Religious
8. Medical
9. Business
10. Salesman/Delivery
11. Others (please specify)

Travel Mode Code

1. Walking
2. Bicycle
3. Motorcycle
4. Rickshaw
5. CNG/Mishuk/Auto (private)
6. CNG/Mishuk/Auto (public)
7. Car
8. Taxi
9. Auto tempo/Laguna/Maxi
10. Microbus/Jeep
11. Minibus/Bus
12. AC Bus
13. Staff Bus
14. School Van
15. School/College/University Bus
16. Truck
17. Boat
18. Ferry
19. Rail
20. Others

	3rd Destination	4th Destination	5th Destination	6th Destination
	The same place as that answered in Page 1	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) <hr/> Union/Ward <hr/> Thana/Upzila District Landmark (if you don't know the exact address)	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) <hr/> Union/Ward <hr/> Thana/Upzila District Landmark (if you don't know the exact address)	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) <hr/> Union/Ward <hr/> Thana/Upzila District Landmark (if you don't know the exact address)
		Trip Number 4	Trip Number 5	Trip Number 6
Departure and Arrival Time	: : Departure Time Arrival Time	: : Departure Time Arrival Time	: : Departure Time Arrival Time	: : Departure Time Arrival Time
Trip Purpose	Purpose If others, please specify	Purpose If others, please specify	Purpose If others, please specify	Purpose If others, please specify
Trip Cost	Tk	Tk	Tk	Tk
Travel Mode, Travel Time and Transfer Point	3rd Destination ↓ Mode: Time: hrs mins 1st transfer point ↓ Mode: Time: hrs mins 2nd transfer point ↓ Mode: Time: hrs mins 3rd transfer point ↓ Mode: Time: hrs mins 4th transfer point ↓ Mode: Time: hrs mins 5th transfer point ↓ Mode: Time: hrs mins 6th transfer point ↓ Mode: Time: hrs mins 7th transfer point ↓ Mode: Time: hrs mins 4th Destination	4th Destination ↓ Mode: Time: hrs mins 1st transfer point ↓ Mode: Time: hrs mins 2nd transfer point ↓ Mode: Time: hrs mins 3rd transfer point ↓ Mode: Time: hrs mins 4th transfer point ↓ Mode: Time: hrs mins 5th transfer point ↓ Mode: Time: hrs mins 6th transfer point ↓ Mode: Time: hrs mins 7th transfer point ↓ Mode: Time: hrs mins 5th Destination	5th Destination ↓ Mode: Time: hrs mins 1st transfer point ↓ Mode: Time: hrs mins 2nd transfer point ↓ Mode: Time: hrs mins 3rd transfer point ↓ Mode: Time: hrs mins 4th transfer point ↓ Mode: Time: hrs mins 5th transfer point ↓ Mode: Time: hrs mins 6th transfer point ↓ Mode: Time: hrs mins 7th transfer point ↓ Mode: Time: hrs mins 6th Destination	

Form 4: Trip Record (Page 3)

Trip Purpose Code

1. To home
2. To Work
3. To School
4. To Market/Shop
5. Social/Family or Friend Visit
6. Recreation
7. Religious
8. Medical
9. Business
10. Salesman/Delivery
11. Others (please specify)

Travel Mode Code

1. Walking
2. Bicycle
3. Motorcycle
4. Rickshaw
5. CNG/Mishuk/Auto (private)
6. CNG/Mishuk/Auto (public)
7. Car
8. Taxi
9. Auto tempo/Laguna/Maxi
10. Microbus/Jeep
11. Minibus/Bus
12. AC Bus
13. Staff Bus
14. School Van
15. School/College/University Bus
16. Truck
17. Boat
18. Ferry
19. Rail
20. Others

	6th Destination	7th Destination	8th Destination	9th Destination
	The same place as that answered in Page 2	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) _____ Union/Ward _____ Thana/Upzila District _____ Landmark (if you don't know the exact address)	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) _____ Union/Ward _____ Thana/Upzila District _____ Landmark (if you don't know the exact address)	1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address) _____ Union/Ward _____ Thana/Upzila District _____ Landmark (if you don't know the exact address)
		Trip Number 7	Trip Number 8	Trip Number 9
Departure and Arrival Time	: :	: :	: :	: :
	Departure Time	Arrival Time	Departure Time	Arrival Time
Trip Purpose	Purpose If others, please specify		Purpose If others, please specify	
Trip Cost	Tk		Tk	
Travel Mode, Travel Time and Transfer Point	↓ Mode: Time: hrs mins 6th Destination		↓ Mode: Time: hrs mins 7th Destination	
	1st transfer point		1st transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	2nd transfer point		2nd transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	3rd transfer point		3rd transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	4th transfer point		4th transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	5th transfer point		5th transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	6th transfer point		6th transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	7th transfer point		7th transfer point	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	7th Destination		8th Destination	
	↓ Mode: Time: hrs mins		↓ Mode: Time: hrs mins	
	7th Destination		9th Destination	

To page 4

Form 4: Trip Record (Page 4)

Trip Purpose Code

1. To home
2. To Work
3. To School
4. To Market/Shop
5. Social/Family or Friend Visit
6. Recreation
7. Religious
8. Medical
9. Business
10. Salesman/Delivery
11. Others (please specify)

Travel Mode Code

1. Walking
2. Bicycle
3. Motorcycle
4. Rickshaw
5. CNG/Mishuk/Auto (private)
6. CNG/Mishuk/Auto (public)
7. Car
8. Taxi
9. Auto tempo/Laguna/Maxi
10. Microbus/Jeep
11. Minibus/Bus
12. AC Bus
13. Staff Bus
14. School Van
15. School/College/ University Bus
16. Truck
17. Boat
18. Ferry
19. Rail
20. Others

<p>9th Destination</p> <p style="text-align: center;">The same place as that answered in Page 3</p>	<p>10th Destination</p> <div style="border: 1px solid black; padding: 5px;"> <p>1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address)</p> <hr/> <p style="text-align: center;">Union/Ward</p> <hr/> <p>Thana/Upzila District</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> </div> <p>Landmark (if you don't know the exact address)</p> </div> <p style="text-align: center;">Trip Number 10</p>	<p>11th Destination</p> <div style="border: 1px solid black; padding: 5px;"> <p>1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address)</p> <hr/> <p style="text-align: center;">Union/Ward</p> <hr/> <p>Thana/Upzila District</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> </div> <p>Landmark (if you don't know the exact address)</p> </div> <p style="text-align: center;">Trip Number 11</p>	<p>12th Destination</p> <div style="border: 1px solid black; padding: 5px;"> <p>1. Your home 2. Your workplace 3. Your school 4. Others (Please specify the address)</p> <hr/> <p style="text-align: center;">Union/Ward</p> <hr/> <p>Thana/Upzila District</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> <div style="width: 40px; border-bottom: 1px solid black;"></div> </div> <p>Landmark (if you don't know the exact address)</p> </div> <p style="text-align: center;">Trip Number 12</p>
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	Departure and Arrival Time	Departure Time	Arrival Time	Purpose	If others, please specify	Trip Cost	Tk
Travel Mode, Travel Time and Transfer Point	9th Destination						
	↓	Mode:	Time:	hrs	mins		
	1st transfer point						
	↓	Mode:	Time:	hrs	mins		
	2nd transfer point						
	↓	Mode:	Time:	hrs	mins		
	3rd transfer point						
	↓	Mode:	Time:	hrs	mins		
	4th transfer point						
	↓	Mode:	Time:	hrs	mins		
5th transfer point							
↓	Mode:	Time:	hrs	mins			
6th transfer point							
↓	Mode:	Time:	hrs	mins			
7th transfer point							
10th Destination							
11th Destination							
12th Destination							

ANNEX 2 Vehicular Traffic Count Survey Forms

Traffic Count Survey Form – Vehicle Count

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

2. Bicycle	
3. Motorcycle	
4. Rickshaw	
5. CNG/Mishuk/Auto	

Traffic Count Survey Form – Vehicle Count

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

7. Car	
8. Taxi	
9. Auto tempo/ Laguna/ Maxi	
10. Microbus/ Jeep	

Traffic Count Survey Form – Vehicle Count

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

11. Minibus/ Bus	
12. AC Bus	
13. Staff Bus	
14. School Van	
15. School/College/ University Bus	

Traffic Count Survey Form – Vehicle Count

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

16. Truck 3-Axle / Truck Trailer	
17. Tanker/ Tank Lorry	
18. Medium Truck/ Truck 2-Axle	
19. Pick-up/ Small Van	
20. Other	

Traffic Count Survey Form – Vehicle Occupancy

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

7. Car																				
8. Taxi																				
9. Auto tempo/ Laguna/ Maxi																				
10. Microbus/ Jeep																				

Traffic Count Survey Form – Vehicle Occupancy

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Survey Period: _____ : _____ to _____ : _____ Weather/Remarks: _____

16. Truck 3-Axle / Truck Trailer																				
17. Tanker/ Tank Lorry																				
18. Medium Truck/ Truck 2-Axle																				
19. Pick-up/ Small Van																				
20. Other																				

ANNEX 5 Origin-Destination Survey Forms

OD Interview Survey Form – For Roadside Interview

Survey Station Code: _____ Direction Code: _____ Surveyor's Name: _____

Interview Time: _____ : _____ Weather/Remarks: _____

- Vehicle Type:** 2. Bicycle 3. Motorcycle 4. Rickshaw 5. CNG/Mishuk/Auto 7. Car
 8. Taxi 9. Auto tempo/Laguna/Maxi 10. Microbus/ Jeep 11. Minibus/ Bus
 12. AC Bus 13. Staff Bus 14. School Van 15. School/ College/University Bus
 16. Truck 3-Axle /Truck Trailer 17. Tanker/ Tank Lorry
 18. Medium Truck/ Truck 2-Axle 19. Pick-up/Small Van 20. Others (Specify: _____)

Number of Occupants Including the Driver: _____ persons

Q1 Where do you come from?

_____ Landmark / Hotel etc.

_____ Union/Ward _____ Upazila/Thana _____ District/Zila

Q2 Where are you going?

_____ Landmark / Hotel etc.

_____ Union/Ward _____ Upazila/Thana _____ District/Zila

Q3 What is your trip purpose?

1. To home 2. To Work 3. To School
 4. To Market/Shop 5. Social/Family or Friend Visit 6. Recreation
 7. Religious 8. Medical 9. Business
 10. Salesman/Delivery 11. Others (please specify: _____)

Q4 Where do you live on regular weekdays?

_____ Union/Ward _____ Upazila/Thana _____ District/Zila

Questions for car drivers (vehicle type #7) only:

Q5 How long will it take from origin to destination? _____ hours _____ minutes

Q6 If the travel time becomes shorter as below, how much will you pay additionally?
 (Surveyor should randomly select one of the questions below)

1. 5 minutes _____ Tk 2. 10 minutes _____ Tk 3. 15 minutes _____ Tk
 4. 20 minutes _____ Tk 5. 25 minutes _____ Tk 6. 30 minutes _____ Tk

Question for bus drivers (vehicle types #11 and #12) only:

Q7 Which bus terminal did this bus start?

1. Gabtali 2. Mohakhali 3. Saidabad 4. Others

OD Interview Survey Form – For Public Transport Passengers

Survey Station Code: _____ Direction Code: 1 Surveyor's Name: _____

Interview Time: _____ : _____ Weather/Remarks: _____

Q1 Where do you come from?

_____	_____
Country	Landmark / Hotel etc.
_____	_____
Union/Ward	Upazila/Thana
_____	_____
	District/Zila

Q2 What is the origin?

1. Your home 2. Your workplace 3. Your school 4. Others

Q3 Where are you going?

_____	_____
Country	Landmark / Hotel etc.
_____	_____
Union/Ward	Upazila/Thana
_____	_____
	District/Zila

Q4 What is the destination?

1. Your home 2. Your workplace 3. Your school 4. Others

Q5 By which mode did you come to this terminal?

- | | | | |
|------------------------------|-----------------------------|-----------------------------------|-------------|
| 1. Walking | 2. Bicycle | 3. Motorcycle | 4. Rickshaw |
| 5. CNG/Mishuk/Auto (private) | 6. CNG/Mishuk/Auto (public) | 7. Car | 8. Taxi |
| 9. Auto tempo/Laguna/Maxi | 10. Microbus/Jeep | 11. Minibus/Bus | 12. AC Bus |
| 13. Staff Bus | 14. School Van | 15. School/College/University Bus | |
| 16. Truck | 17. Boat | 18. Ferry | 19. Rail |
| 20. Others | | | |

Q6 If you are a permanent resident of Bangladesh, where do you live on regular weekdays?

_____	_____	_____
Union/Ward	Upazila/Thana	District/Zila

Q7 How many well-wishers followed you to this terminal?

_____ persons (excluding yourself)

ANNEX 6 Public Transportation Users' Opinion Survey Forms

Public Transportation Users' Opinion Survey Form

Survey Station Code: _____ Date: _____ Time: _____ : _____ Surveyor: _____

Weather: 1. Fine 2. Cloudy 3. Rain Remarks: _____

Trip information

Q1 Which travel mode did you take to come to this terminal?

1. Railway 2. Inter-city AC bus 3. Intra-city Bus 4. Minibus
 5. Auto tempo/Laguna/Maxi 6. CNG/Mishuk/Auto 7. Rickshaw

Q2 What is the purpose of this trip? (Choose one)

1. To home 2. To work 3. To school / Education 4. Business 5. Private 6. Others

Q3 How long did it take from the place you get on the mode to here? _____ hours _____ minutes

Q4 How much did you pay for the mode? _____ Tk

Q5 If the travel time becomes shorter as below, how much will you pay additionally?

(Surveyor should randomly select one of the questions below)

1. 5 minutes _____ Tk 2. 10 minutes _____ Tk 3. 15 minutes _____ Tk
 4. 20 minutes _____ Tk 5. 25 minutes _____ Tk 6. 30 minutes _____ Tk

Q6 (Ask bus users only) If the bus is air-conditioned, how much will you pay additionally? _____ Tk

Assessment

Q7 Please assess the service of the mode you took.

1	Travel time	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
2	Cost / Fare	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
3	Frequency	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
4	Punctuality	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
5	Operation time	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
6	Crowdedness in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
7	Comfort in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
8	Safety in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
9	Air quality in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
10	Noise levels in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
11	Cleanness in the vehicle	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
12	Driver's/Conductor's behavior	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
13	Easiness of transfer to another mode	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
14	Waiting conditions (safety, air quality, noise, shade, etc.)	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
Questions 15 – 17 are for minibus & bus passengers only:						
15	Information provision (announce, route map, etc.)	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
16	Number of stops	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad
17	Accessibility to bus stop or route	1. Very good	2. Good	3. Fair	4. Bad	5. Very bad

Passenger's Information

Q8 Gender (To be filled by the surveyor) 1. Male 2. Female

Q9 How old are you?

1. 15 – 19 years old 2. 20 – 29 years old 3. 30 – 39 years old 4. 40 – 49 years old
 5. 50 – 59 years old 6. 60 – 69 years old 7. Over 70 years old

Q10 Do you have a motorcycle for your own use? 1. Yes 2. No

Q11 Do you have a car for your own use? 1. Yes 2. No

Q12 How much is the monthly family income in Taka?

1. Below 5,000 2. 5,000 – 9,999 3. 10,000 – 14,999 4. 15,000 – 19,999 5. 20,000 – 24,999
 6. 25,000 – 29,999 7. 30,000 – 34,999 8. 35,000 – 39,999 9. 40,000 – 44,999 10. 45,000 – 49,999
 11. 50,000 and above

ANNEX 7 Zone System

Figure Zone System

Explanation	Division	District	Thana/Upzila	Ward/Union	RSTP TAZ
DCC	Dhaka	Dhaka	Biman Bandar	Ward No-01(part)	1
DCC	Dhaka	Dhaka	Uttara	Ward No-01(part)	1
DCC	Dhaka	Dhaka	Pallabi	Ward No-02	2
DCC	Dhaka	Dhaka	Pallabi	Ward No-03	3
DCC	Dhaka	Dhaka	Kafrul	Ward No-04	4
DCC	Dhaka	Dhaka	Pallabi	Ward No-05	5
DCC	Dhaka	Dhaka	Pallabi	Ward No-06	6
DCC	Dhaka	Dhaka	Mirpur	Ward No-07 (part)	7
DCC	Dhaka	Dhaka	Pallabi	Ward No-07 (Part)	7
DCC	Dhaka	Dhaka	Shah Ali	Ward No-07 (part)	7
DCC	Dhaka	Dhaka	Shah Ali	Ward No-08	8
DCC	Dhaka	Dhaka	Darus Salam	Ward No-09	9
DCC	Dhaka	Dhaka	Darus Salam	Ward No-10	10
DCC	Dhaka	Dhaka	Mirpur	Ward No-11	11
DCC	Dhaka	Dhaka	Mirpur	Ward No-12	12
DCC	Dhaka	Dhaka	Mirpur	Ward No-13	13
DCC	Dhaka	Dhaka	Kafrul	Ward No-14 (part)	14
DCC	Dhaka	Dhaka	Mirpur	Ward No-14 (part)	14
DCC	Dhaka	Dhaka	Cantonment	Ward No-15 (part)	15
DCC	Dhaka	Dhaka	Kafrul	Ward No-15 (part)	15
DCC	Dhaka	Dhaka	Pallabi	Ward No-15(part)	15
DCC	Dhaka	Dhaka	Kafrul	Ward No-16	16
DCC	Dhaka	Dhaka	Badda	Ward No-17 (Part)	17
DCC	Dhaka	Dhaka	Khilkhet	Ward No-17 (part)	17
DMA	Dhaka	Dhaka	Biman Bandar	Ward No-98(rest. Area Part)	17
DMA	Dhaka	Dhaka	Biman Bandar	Dakshinkhan(part)	17
DCC	Dhaka	Dhaka	Gulshan	Ward No-18	18
DCC	Dhaka	Dhaka	Gulshan	Ward No-19 (part)	19
DCC	Dhaka	Dhaka	Gulshan	Ward No-20 (part)	20
DCC	Dhaka	Dhaka	Tejgaon Area Ind.	Ward No-20 (part)	20
DCC	Dhaka	Dhaka	Badda	Ward No-21	21
DCC	Dhaka	Dhaka	Rampura	Ward No-22	22
DCC	Dhaka	Dhaka	Rampura	Ward No-23	23
DCC	Dhaka	Dhaka	Khilgaon	Ward No-24	24
DCC	Dhaka	Dhaka	Khilgaon	Ward No-25	25
DCC	Dhaka	Dhaka	Khilgaon	Ward No-26 (part)	26
DCC	Dhaka	Dhaka	Sabujbagh	Ward No-27	27
DCC	Dhaka	Dhaka	Sabujbagh	Ward No-28	28
DCC	Dhaka	Dhaka	Sabujbagh	Ward No-29	29
DCC	Dhaka	Dhaka	Sabujbagh	Ward No-30	30
DCC	Dhaka	Dhaka	Motijheel	Ward No-31	31
DCC	Dhaka	Dhaka	Motijheel	Ward No-32	32

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Explanation	Division	District	Thana/Upzila	Ward/Union	RSTP TAZ
DCC	Dhaka	Dhaka	Motijheel	Ward No-33	33
DCC	Dhaka	Dhaka	Motijheel	Ward No-34	34
DCC	Dhaka	Dhaka	Motijheel	Ward No-35	35
DCC	Dhaka	Dhaka	Paltan	Ward No-36	36
DCC	Dhaka	Dhaka	Tejgaon Area Ind.	Ward No-37	37
DCC	Dhaka	Dhaka	Tejgaon	Ward No-38 (part)	38
DCC	Dhaka	Dhaka	Tejgaon Area Ind.	Ward No-38 (part)	38
DCC	Dhaka	Dhaka	Tejgaon	Ward No-39	39
DCC	Dhaka	Dhaka	Sher-e-bangla Nagar	Ward No-40 (part)	40
DCC	Dhaka	Dhaka	Tejgaon	Ward No-40(part)	40
DCC	Dhaka	Dhaka	Sher-e-bangla Nagar	Ward No-41	41
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-42	42
DCC	Dhaka	Dhaka	Adabor	Ward No-43	43
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-44	44
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-45	45
DCC	Dhaka	Dhaka	Adabor	Ward No-46 (part)	46
DCC	Dhaka	Dhaka	Hazaribagh	Ward No-46 (part)	46
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-46 (part)	46
DCC	Dhaka	Dhaka	Dhanmondi	Ward No-47(part)	47
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-47 (part)	47
DCC	Dhaka	Dhaka	Dhanmondi	Ward No-48(part)	48
DCC	Dhaka	Dhaka	Hazaribagh	Ward No-48(part)	48
DCC	Dhaka	Dhaka	Dhanmondi	Ward No-49	49
DCC	Dhaka	Dhaka	Kalabagan	Ward No-50	50
DCC	Dhaka	Dhaka	Kalabagan	Ward No-51(part)	51
DCC	Dhaka	Dhaka	Mohammadpur	Ward No-51 (part)	51
DCC	Dhaka	Dhaka	New Market	Ward No-52	52
DCC	Dhaka	Dhaka	Ramna	Ward No-53	53
DCC	Dhaka	Dhaka	Ramna	Ward No-54	54
DCC	Dhaka	Dhaka	Ramna	Ward No-55	55
DCC	Dhaka	Dhaka	Lalbagh	Ward No-56(part)	56
DCC	Dhaka	Dhaka	Shahbagh	Ward No-56(part)	56
DCC	Dhaka	Dhaka	Shahbagh	Ward No-57	57
DCC	Dhaka	Dhaka	Hazaribagh	Ward No-58	58
DCC	Dhaka	Dhaka	Lalbagh	Ward No-91	58
DCC	Dhaka	Dhaka	Lalbagh	Ward No-59	59
DCC	Dhaka	Dhaka	Lalbagh	Ward No-92	59
DCC	Dhaka	Dhaka	Lalbagh	Ward No-60	60
DCC	Dhaka	Dhaka	Lalbagh	Ward No-61	61
DCC	Dhaka	Dhaka	Lalbagh	Ward No-62	62
DCC	Dhaka	Dhaka	Bangshal	Ward No-63 (Part)	63
DCC	Dhaka	Dhaka	Chak Bazar	Ward No-63 (part)	63

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Explanation	Division	District	Thana/Upzila	Ward/Union	RSTP TAZ
DCC	Dhaka	Dhaka	Chak Bazar	Ward No-64	64
DCC	Dhaka	Dhaka	Chak Bazar	Ward No-65	65
DCC	Dhaka	Dhaka	Bangshal	Ward No-66 (part)	66
DCC	Dhaka	Dhaka	Chak Bazar	Ward No-66 (part)	66
DCC	Dhaka	Dhaka	Bangshal	Ward No-67 (part)	67
DCC	Dhaka	Dhaka	Chak Bazar	Ward No-67 (part)	67
DCC	Dhaka	Dhaka	Bangshal	Ward No-68(part)	68
DCC	Dhaka	Dhaka	Kotwali	Ward No-68(part)	68
DCC	Dhaka	Dhaka	Bangshal	Ward No-69	69
DCC	Dhaka	Dhaka	Bangshal	Ward No-70	70
DCC	Dhaka	Dhaka	Bangshal	Ward No-71(part)	71
DCC	Dhaka	Dhaka	Kotwali	Ward No-71(part)	71
DCC	Dhaka	Dhaka	Kotwali	Ward No-72	72
DCC	Dhaka	Dhaka	Kotwali	Ward No-73	73
DCC	Dhaka	Dhaka	Sutrapur	Ward No-74	74
DCC	Dhaka	Dhaka	Sutrapur	Ward No-75	75
DCC	Dhaka	Dhaka	Gendaria	Ward No-76 (part)	76
DCC	Dhaka	Dhaka	Jatrabari	Ward No-76 (part)	76
DCC	Dhaka	Dhaka	Sutrapur	Ward No-77	77
DCC	Dhaka	Dhaka	Sutrapur	Ward No-78	78
DCC	Dhaka	Dhaka	Sutrapur	Ward No-79	79
DCC	Dhaka	Dhaka	Gendaria	Ward No-80 (part)	80
DCC	Dhaka	Dhaka	Sutrapur	Ward No-80 (part)	80
DCC	Dhaka	Dhaka	Gendaria	Ward No-81	81
DCC	Dhaka	Dhaka	Gendaria	Ward No-82	82
DCC	Dhaka	Dhaka	Shyampur	Ward No-83	83
DCC	Dhaka	Dhaka	Jatrabari	Ward No-84	84
DCC	Dhaka	Dhaka	Jatrabari	Ward No-85	85
DCC	Dhaka	Dhaka	Jatrabari	Ward No-86	86
DCC	Dhaka	Dhaka	Shyampur	Ward No-87	87
DCC	Dhaka	Dhaka	Kadamtali	Ward No-88	88
DCC	Dhaka	Dhaka	Kadamtali	Ward No-89	89
DCC	Dhaka	Dhaka	Shyampur	Ward No-90	90
DMA	Dhaka	Dhaka	Demra	Demra	91
DMA	Dhaka	Dhaka	Demra	Matuail (part)	91
DMA	Dhaka	Dhaka	Demra	Saralia	91
DMA	Dhaka	Dhaka	Jatrabari	Dhaniala (part)	92
DMA	Dhaka	Dhaka	Jatrabari	Matuail (part)	92
DMA	Dhaka	Dhaka	Kadamtali	Dhaniala (part)	93
DMA	Dhaka	Dhaka	Kadamtali	Matuail(part)	93
DMA	Dhaka	Dhaka	Kadamtali	Shyampur	94
DMA	Dhaka	Dhaka	Khilgaon	Dakshingaon (part)	95
DMA	Dhaka	Dhaka	Khilgaon	Nasirabad	95
DMA	Dhaka	Dhaka	Sabujbagh	Dakshingaon (part)	95
DMA	Dhaka	Dhaka	Sabujbagh	Manda	95

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Explanation	Division	District	Thana/Upzila	Ward/Union	RSTP TAZ
DMA	Dhaka	Dhaka	Badda	Badda	96
DMA	Dhaka	Dhaka	Badda	Beraid	96
DMA	Dhaka	Dhaka	Badda	Bhatara	96
DMA	Dhaka	Dhaka	Badda	Satarkul	96
DMA	Dhaka	Dhaka	Khilkhet	Dakshinkhan (part)	97
DMA	Dhaka	Dhaka	Khilkhet	Dumni	97
DMA	Dhaka	Dhaka	Dakshinkhan	Dakshinkhan(part)	98
DMA	Dhaka	Dhaka	Uttar Khan	Uttar Khan	98
DMA	Dhaka	Dhaka	Cantonment	Ward No-98 (rest. Area)	99
DMA	Dhaka	Dhaka	Turag	Harirampur	100
DMA	Dhaka	Dhaka	Kamrangir Char	Sultanganj	101
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-01(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-02(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-03(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-04(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-05(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-06(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-07(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-08(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-09(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-10(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-11(Tongi)	102
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-12(Tongi)	102
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-01	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-02	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-03	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-04	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-05	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-06	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-07	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-08	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-09	103
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-01(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-02(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-03(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj	Ward No-04(Siddirganj)	104

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RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-06(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-07(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-08(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Ward No-09(Siddirganj)	104
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Kutubpur	105
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Fatullah	106
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Alir Tek	107
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Baktaballi	107
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Enayetnagar	107
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Kashipur	107
RAJUK	Dhaka	Narayanganj	Narayanganj Sadar	Gognagar	108
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-01	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-02	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-03	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-04	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-05	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-06	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-07	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-08	109
RAJUK	Dhaka	Narayanganj	Bandar	Ward No-09	109
RAJUK	Dhaka	Narayanganj	Bandar	Bandar	110
RAJUK	Dhaka	Narayanganj	Bandar	Kalagachhia	110
RAJUK	Dhaka	Narayanganj	Bandar	Dhamgar	111
RAJUK	Dhaka	Narayanganj	Bandar	Madanpur	111
RAJUK	Dhaka	Narayanganj	Bandar	Musapur	111
RAJUK	Dhaka	Narayanganj	Sonargaon	Kachpur	112
RAJUK	Dhaka	Narayanganj	Sonargaon	Sadipur	112
RAJUK	Dhaka	Narayanganj	Sonargaon	Mugra Para	113
RAJUK	Dhaka	Narayanganj	Sonargaon	Shambhupura	113
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-01(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-02(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-03(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-04(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-05(Tarabo)	114

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RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-07(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-08(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Ward No-09(Tarabo)	114
RAJUK	Dhaka	Narayanganj	Rupganj	Bulta	115
RAJUK	Dhaka	Narayanganj	Rupganj	Golakandail	115
RAJUK	Dhaka	Narayanganj	Rupganj	Mura Para	115
RAJUK	Dhaka	Narayanganj	Rupganj	Kayet Para	116
RAJUK	Dhaka	Narayanganj	Rupganj	Daudpur	117
RAJUK	Dhaka	Narayanganj	Rupganj	Rupganj	118
RAJUK	Dhaka	Gazipur	Kaliganj	Nagari	119
RAJUK	Dhaka	Gazipur	Kaliganj	Tumulia	120
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-01	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-02	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-03	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-04	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-05	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-06	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-07	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-08	121
RAJUK	Dhaka	Gazipur	Kaliganj	Ward No-09	121
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-01	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-02	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-03	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-04	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-05	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-06	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-07	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-08	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Ward No-09	122
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Baria	123
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Pubail	123
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Basan	124
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Gazipur Cant.	124
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Kayaltia	124
GDA	Dhaka	Gazipur	Gazipur Sadar	Konabari	124
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Gachha	125
RAJUK	Dhaka	Gazipur	Gazipur Sadar	Kashimpur	126
RAJUK	Dhaka	Dhaka	Savar	Ashulia	127
RAJUK	Dhaka	Dhaka	Savar	Biralia	128
RAJUK	Dhaka	Dhaka	Savar	Dhamsana	129
RAJUK	Dhaka	Dhaka	Savar	Yearpur	130
RAJUK	Dhaka	Dhaka	Savar	Savar Cantoment	130
RAJUK	Dhaka	Dhaka	Savar	Amin Bazar	131
RAJUK	Dhaka	Dhaka	Savar	Kaundia	132

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RAJUK	Dhaka	Dhaka	Savar	Ward No-02	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-03	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-04	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-05	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-06	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-07	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-08	133
RAJUK	Dhaka	Dhaka	Savar	Ward No-09	133
RAJUK	Dhaka	Dhaka	Savar	Pathalia	134
RAJUK	Dhaka	Dhaka	Savar	Savar	134
RAJUK	Dhaka	Dhaka	Savar	Banagram	135
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RAJUK	Dhaka	Dhaka	Savar	Tetuljhora	137
RAJUK	Dhaka	Dhaka	Keraniganj	Aganagar	138
RAJUK	Dhaka	Dhaka	Keraniganj	Basta	138
RAJUK	Dhaka	Dhaka	Keraniganj	Kalindi	138
RAJUK	Dhaka	Dhaka	Keraniganj	Ruhitpur	138
RAJUK	Dhaka	Dhaka	Keraniganj	Zinjira	138
RAJUK	Dhaka	Dhaka	Keraniganj	Hazratpur	139
RAJUK	Dhaka	Dhaka	Keraniganj	Kalatia	139
RAJUK	Dhaka	Dhaka	Keraniganj	Sakta	139
RAJUK	Dhaka	Dhaka	Keraniganj	Taranagar	139
RAJUK	Dhaka	Dhaka	Keraniganj	Subhadya	140
RAJUK	Dhaka	Dhaka	Keraniganj	Tegharia	140
DMA	Dhaka	Dhaka	Keraniganj	Konda	141
GDA	Dhaka	Dhaka	Savar	Shimulia	142
GDA	Dhaka	Dhaka	Dhamrai		143
GDA	Dhaka	Dhaka	Dohar		144
GDA	Dhaka	Dhaka	Nawabganj		145
GDA	Dhaka	Manikganj	Singair		146
GDA	Dhaka	Manikganj	Saturia		147
GDA	Dhaka	Manikganj	Manikganj Sadar		148
GDA	Dhaka	Manikganj	Harirampur		149
GDA	Dhaka	Manikganj	Ghior		150
GDA	Dhaka	Manikganj	Daulatpur		151
GDA	Dhaka	Manikganj	Shibalaya		152
GDA	Dhaka	Gazipur	Gazipur Sadar		153
GDA	Dhaka	Gazipur	Kaliakair		154
GDA	Dhaka	Gazipur	Sreepur		155
GDA	Dhaka	Gazipur	Kaliganj		156
GDA	Dhaka	Gazipur	Kapasias		157
GDA	Dhaka	Narsingdi	Palash		158
GDA	Dhaka	Narsingdi	Shibpur		159
GDA	Dhaka	Narsingdi	Manohardi		160

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GDA	Dhaka	Narsingdi	Roypura		162
GDA	Dhaka	Narsingdi	Narsingdi Sadar		163
GDA	Dhaka	Narayanganj	Rupganj		164
GDA	Dhaka	Narayanganj	Araihazar		165
GDA	Dhaka	Narayanganj	Sonargaon		166
GDA	Dhaka	Munshiganj	Gazaria		167
GDA	Dhaka	Munshiganj	Munshiganj Sadar		168
GDA	Dhaka	Munshiganj	Tongibari		169
GDA	Dhaka	Munshiganj	Serajdikhan		170
GDA	Dhaka	Munshiganj	Sreenagar		171
GDA	Dhaka	Munshiganj	Lohajang		172
Bangladesh	Dhaka	Faridpur			173
Bangladesh	Dhaka	Gopalganj			174
Bangladesh	Dhaka	Jamalpur			175
Bangladesh	Dhaka	Kishoreganj			176
Bangladesh	Dhaka	Madaripur			177
Bangladesh	Dhaka	Mymensingh			178
Bangladesh	Dhaka	Netrakona			179
Bangladesh	Dhaka	Rajbari			180
Bangladesh	Dhaka	Shariatpur			181
Bangladesh	Dhaka	Sherpur			182
Bangladesh	Dhaka	Tangail			183
Bangladesh	Barisal				184
Bangladesh	Chittagong				185
Bangladesh	Khulna				186
Bangladesh	Rajshahi				187
Bangladesh	Rangpur				188
Bangladesh	Sylhet				189
Other Countries					190
Airport				Hazrat Shahjalal International Airport	191
Ferry Terminal				Showari Ghat/ Midford Ghat	192
Ferry Terminal				Sadar Ghat/ Badmtoli Boat Terminal	192
Railway Station				Kamalapur (Dhaka) Station	193
Railway Station				Tejgaon Station	194
Railway Station				Airport Station	195

Source: JICA Study Team

ANNEX 8 Bus Route

Figure Bus Route

Route No.	From	To	Stoppages
A-101	Kalshi (Mirpur 12)	Signboard	Kalsi, Mirpur-12, Mirpur-11, Mirpur-10, Kazipara, Shawrapara, FarmGate, Shahbag, Pressclub, Stadium, Ittefaq, Janapath, Signboard
A-102	Pallabi (Mirpur-12)	Sadargat	Pallabi, Mirpur-11½, Boikali Hotel, Mirpur-11, Mirpur-10, Kazipara, Farm Gate, Press Club, TNT, Roy Shaheb Bazar, Vicktoria Park, Sadarghat
A-103	Pallabi (BDR Shopping Counter)	Jatrabari	Pallabi, Baikali Hotel, Mirpur-11, Mirpur-10, Kazipara, Shewrapara, Taltala, Farmgate, Shahbagh, PressClub, Paltan, Shaplachattar, Ittefaq, Saidabad
A-104	Pallabi (Mirpur 12)	Bangabandhu Avenue	Mirpur-12, Mirpur-11, Mirpur-10, Mirpur-2, Mirpur-1, AnsarCamp, Technical, Shishu Mela, Asad Gate, Shukrabad, Kalabagan, Science Lab, New Market, Dhakeshari Mandir, Bangbandhu Avane
A-105	Pallabi (Duaripara)	Dhakeshwari Mandir	Pallabi, Mirpur-11, Mirpur 10, Kazi Para, Shawrapara, Agargaon, Newmarket, Eatimkhana, Polashi
A-106	Pallabi (Mirpur -12)	Narayanganj Link Road	Baikali Hotel, Mirpur-11, Mirpur-10 Golchakkar, Mirpur-1, Nilkhet, Azimpur, Palashi, Kataban, Jatrabari
A-107	Pallabi (Ceramic)	Jatrabari	Up: Pallabi, Mirpur-10, Mirpur-1, Pangu Hospital, Sher-e-Bangla Nagar, Bijoy Sarani, Farmgate, Shahabag, Paltan, Dainik Bangla, Fakirapool, Al-Helal Box, Motijheel, Ittefaq, Saidabad, Jatrabari. Down: Jatrabari, Saidabad, Ittefaq, Motijheel, Dainik Bangla, Paltan, Shahabag, Farmgate, Bijoy Sarani, Sher-e-Bangla Nagar, Pangu Hospital, Mirpur-1, Mirpur-10, Pallabi.
A-108	Pallabi (Duaripara)	Kamalapur	Duaripara, Mirpur-1, Darussalam, College Gate, Kalabagan, Newmarket, Kataban, Pressclub, Motijheel, Kamapur
A-109	Pallabi (Duaripara)	Demra Ghat	UP: Pallabi (Duaripara), Mirpur-10, Rokeya Sarani, Khejur Bagan, Farmgate, Shahabag, Press Club, Dainik Bangla, Fakirapool, Al-Helal Box, Bangladesh Bank, Ittefaq, Saidabad, Jatrabari, Sanarpara, Chittagong Road, Sarulia, Demraghat. Down: Demraghat, Sarulia, Chittagong Road, Sanarpara, Jatrabari, Saidabad, Ittefaq, Bangladesh Bank, Dainik Bangla, Press Club, Shahabag, Farmgate, Khejur Bagan, Rokeya Sarani, Mirpur-10, Pallabi (Duaripara).
A-110	Pallabi (Duaripara)	Gulistan	Duaripara, Mirpur-6, Mirpur-1, Kallaynpur, Asadgate, Sukrabad, BUET, Bangabazar, Gulistan
A-111	Pallabi (Ceramic)	Notre Dame Collage	Up: Pallabin (Ceramic), Mirpur-10, Shewrapara, Farmgate, Shahabag, Paltan, Gulistan, Biman Office, Shapla Chattar. Down: Shapla Chattar, Al-Helal Box, Fakirapool, Dainik Bangla, Paltan, Shahabag, Farmgate, Shewrapara, Mirpur-10, Pallabi (Ceramic)
A-112	Pallabi	Zero Point	Mirpur-12, Mirpur-10, Kazipara, Shawrapara, Agargaon, Khejurbagan, FarmGate, Banglamotor, Shahbag, Purana Paltan, Zero Point
A-113	Pallabi (BDR Shopping)	Jatrabari	Up: Pallabi (BDR Shopping Mall), Rokeya Sarani, Manikmia Avenue, Rassel Square, Science Lab, Shahbag, Press Club, Gulistan, Ittedfaq, Saidabad, Jatrabari. Down: Jatrabari, Saidabad, Ittefaq, Gulistan, Press Club, Shahabag, Science Lab, Rassel Sqare, Manikmia Avenue, Rokeya Sarani, Pallabi (BDR Shopping Mall).
A-114	Mirpur (Zoo)	Saidabad	Mirpur-1, Ansar Camp, Darussalam, Kallaynpur, Shaymoli, Shishumela, College gate, Asad gate, Farm Gate, Kawranbazar, Shabagh, Press club, Ittefaq, Saidabad
A-115	Mirpur -1 (Boishakhi Super Market)	Jatrabari	Boishakhi Super Market, Ansar Camp, Technical, Kallaynpur, Shamoly, Collegegate, Sukrabad, Kalabagan, Science Lab, Kataban, Shahbagh, Press Club, Gulistanmor, Bangladesh Bank, Jatrabari
A-116	Kamalapur	Pallabi (Mirpur-12)	kamlapur, Pirjangi Mazar, Malibagh, Mogbazar, Bangla Motor, Farm Gate, Agargaon, Shawrapara, Kazipara, Mirpur-10, Mirpur-11, Mirpur-12
A-117	Pallabi (Duaripara)	Postogola Bridge	Duaripara, Rupnagar, Mirpur -2, Mirpur-10, Kazi para, Shawrapara, Agargaon, Farm Gate, Shabag, Press Club, Gulistan, Motijheel, Tikatuli, Dayagang Chowrasta, Postgola Bridge
A-118	Duaripara	Dhakeshari	Duaripara, Mirpur-11½ (Anik Plaza), Mirpur-11, Mirpur-10, Kazipara, Shawrapara, Manik Mia Avenue, Sukrabad, Dhanmondi, Newmarket, Azimpur, Palasi, Dhakeshari

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A-119	Duaripara	Victoria Park	Duaripara, Mirpur-11½ (Anik Plaza), Mirpur-11, Mirpur-10, Kazipara, Shawrapara, Farm Gate, Shabag, Press Club, Bangabazar, Golapsha Mazar, Fulbaria, Rayshaheb Bazar, VictoriaPark
A-120	Kulsi (Mirpur-12)	Motijheel (Shaplachattar)	Up: Kalsi, Purobi, Mirpur-10, Mirpur-2, Mirpur-1, Technical, Kallaynpur, Shaymali, Colleagate, Asadgate, Kalabagan, City College, Science Lab, Shabagh, Matshabhaban, PressClub, Paltan, GPO, Gulistan, Shapla Chattar. Down: Shapla Chattar, GPO, Paltan, Press Club, Matshabhaban, Shahabag, Science Lab, City College, Kalabagn, Asadgate, Cllegegate, Shyamoli, Kallayanpur, Technical, Mirpur-1, Mirpur-2, Mirpur-10, Purobi, Kalsi.
A-121	Pallabi	Motijheel	Up: Pallabi, Mirpur-11, Mirpur-10, Kazipara, Shewrapara, Bijoy Sarani, Farm Gate, Shabag, Press Club, Gulistan, Motijheel. Down: Motijheel, Gulistan, Press Club, Shahbag, Farmgate, Bijoy sarani, Shewrapara, Kazipara, Mirpur-10, Mirpur-11, Pallabi.
A-122	Pallabi	Dhakarshari Mandir	Up: Pallabi, Mirpur-10, Mirpur-1, Darussalam, Shyamoli, Asadgate, Rassel Sqaure, Kalabagn, New Market, Dhakeswari Mandir. Down: Dhakeswari Mandir, New Market, Kalabagan, Raseel Sqaure, Asad gate, Shaymoli, Darussalam, Mirpur-1, Mirpur-10, Pallabi.
A-123	Mirpur-12	Motijheel	Mirpur-12, Mirpur-10, Farmgate, Motijheel
A-124	Mirpur-12 (Ceramic)	Signboard	Mirpur-12, Anik Plaza, Mirpur-11, Mirpur-10, Kazipara, Shawrapara, Farmgate, Pressclub, Gulishtan, Ahadbox, Sayedabad, Janapath, Jatrabari, Rayerbagh
A-125	Kalshi	Fulbaria Bus Stand	Kalshi, Purobi, Mirpur-11, Mirpur-10, Kazipara, Shewrapara, Agargaon, Farmgate, Shahbag, Highcourt, BangaBazar, Golapshah Mazar, Fulbaria Bus Stand
A-126	Mirpur (Chiriakhana road Muktijoddha Complex)	Kamalapur (Pirjangi Mazar)	Muktijoddha Complex, Mirpur-2, Mirpur-10, Kazipara, Shawrapara, Agargaon, Farm Gate, Bangla Motor, Moghbazar, Mouchak, Rajarbagh, Kamlapur
A-127	Mirpur Mazar Road	Azimpur	Up: Mazar Road, Mirpur-1, Shaymali, Asadgate, Rassel Square, Kalabagan, Science Lab, New Market, Nilkhet, Palashi, Dhakeshwari Mandir. Down: Dakeswari Mandir, Palasi, Nilkhet, New Market, Science Lab, Kalabagan, Rassel Sqaure, Asadgate, Shymoli, Mirpur-1, Mazar Road.
A-128	Azimpur	Mirpur Mazar Road	Up: Dakeswari mandir, Palashi, Nilkhet, New Market, Science Lab, Kalabagan, Rassel Sqaure, Asadgate, Shymoli, Mirpur-1, Mazar Road. Down: Mazar Road, Mirpur-1, Shaymoli, Asadgate, Rassel Square, Kalabagan, Science Lab, New Market, Nilkhet, Palashi, Dhakeshwari mandir
A-129	Mirpur-14	Khilgaon	Mirpur-14, Mirpur-13, Mirpur-10, Mirpur-2, Mirpur-1, Ansar Camp, Technical, Kallaynpur, College gate, Asad gate, Dhanmondi Boys School, Sukrabad, Kalabagan, Science Lab, Kataban, Shahbagh, Press club, Dainik Bangla, Shaplachattar, Kamalapur, Bashesboo, Khilgaon Rail gate, Khilgaon Taltala
A-130	Mirpur(Diabari Battala)	Jatrabari	Diabari, Shahali Mazar, Mirpur-1, Technical, Kallaynpur, Asad Gate, Science Lab, Matshabhaban, Kakrail, Fakirapul, Bangladesh Bank, Saidabad, Jatrabari
A-131	Mirpur Zoo	Sadarghat	Zoo, Mirpur-1, Darus Salam, Shaymoli, Asad Gate, Farmgate, Press Club, Gulistan, Sadarghat
A-132	Abdullapur (House Building)	Fulbaria	Housebuilding, Azampur, Airport, Khilkhet, Biswaroad, Staff Road, Kakoli, Mohakhali, Farmgate, Shahbag, Press Club, Gulistan, Fulbaria
A-133	Palashi	Uttara (Baliajuri)	Up: Palashi, Azimpur, Newmarket, Kalabaga, Sukrabad, Khamarbari, Mahakhali, Banani, Zia Kolony, Khilkhet, Airport, Azampur, House Building. Down: House Building, Azampur, Airport, Khilkhet, Zia Kolony, Banani, Mahakhali, Khamarbari, Sukrabad, Kalabagan, New Market, Azimpur, Palashi
A-134	Tongi Bridge	Demra Crossing	Tongi Bridge, House Building, Azampur, Airport, Khilkhet, Bishwa Rd, Kakoli, Mohakhali, Nabisco, Satrashta, Malibagh, Fakirapul, B. Bank, Joykali Mandir, Sayedabad, Konapara, Demra Crossing
A-135	Azimpur	Kuril Biswa Road	Azimpur, Kalabagan, Panthopath, Satrasta, Mahakhali, Amtoli, Gulshhan-1, Badda Link Road, Natun Bazar, Pragati Sarani, Kuril Biswa Road
A-136	Dhaor	Saidabad	Dhaor, Kamarpara, Abdullapur, Uttara, Rajlaxmi, New Airport, Khilkhet, Bishwa Rd, Badda, Saidabad
A-137	Balugat	Saidabad	Farmgate, Press Club, Shahbagh, UBL, Bangladesh Bank
A-138	Uttara (Raniganj)	Sadarghat	Natun Bazar, Rampura TV, Malibag, Kakrail, Bangabandhu Ave.

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Route No.	From	To	Stoppages
A-139	Uttara	Kamalapur	Azampur, Airport, Mohakhali, Satrasta, Moghbazar, Malibagh, Pirjangi Mazar
A-140	Uttara	Motijheel (A/C Bus Service)	Airport, Kakoli, Mohakhali, Farmgate, Shahbagh, Press club.
A-141	Bonoshri	Motijheel Shapla Chattar	Rampura, Malibag, Kakrail, Fakirapul, Dainik Bangla
A-142	Pirjangi Mazar	Natun Bazar	Kamalapur, Fakirapul, Kakrail, Malibagh, Moghbazar, Banglamotor, Farmgate, Amtali, Gulshan-1, Badda Link Road
A-143	Pirjangi Mazar	Natun Bazar	Up: Pirjangi Mazar, Gulistan, UBL, Kakrail, Moghbazar, Satrasta, Mohakhali, Gulshan-1, Notun Bazar. Down: Notun Bazar, Gulshan-1, Mohakhali, Satrasta, Moghbazar, Kakrail, UBL, Gulistan, Pirjangi Mazar.
A-144	Motijheel	Abdullahpur	Kamalapur, Pirjangi Mazar, Mouchak, Rampura, Biswa Road, Badda, Nardda, Khilkhet, New Airport.
A-145	Gabtali	Vicktoria Park	Asad Gate, Newmarket, Azimpur, Palashi More, Chankharpul
A-146	EPZ	New Airport	Gabtali, Technical, Kallaynpur, Shisu Mela, Agargaon, Old Airport, Old Airport, Kakali, Banani, Khilkhet, New Airport
A-147	Gabtali	Azimpur	College Gate, Sukrabad, Azimpur, Palashi.
A-148	Gabtali	Banashari	Gabtali, Technical, Shaymoli, Rassel Square, Sonargaon Rainbow Crossing, Moghbazar, Mouchak, Rampura, Banasree
A-149	Gabtali	Sayedabad	Gabtali, Technical, Kallayanpur, Technical, Shaymoli, Asadgate, Farmgate, Bangla Motor, Moghbazar, Mouchak, Malibag Railgate, Saidabad
A-150	Gabtali	Demra Ghat	Gabtali, Asadgate, Panthapath, Banglamotor, Moghbazar, Malibagh, Kakrail, Hotel Al-Helal, Motijheel, Jaikali Mandir, Demraghat
A-151	Gabtali	Abdullahpur	Gabtali, Shymoli, Shishumela, Agargaon, Mohakhali, Banani, Kakoli, Khilkhet, Airport, Uttara, Housebuilding, Abdullahpur
A-152	Bhasantek	Katchpur Bridge	Bhasantek, Mirpur-14, Mirpur-10, Kazipara, Shewrapara, Agargaon, Farmgate, Shahabag, Pressclub, Dainik Bangla, Bangladesh Bank, Ittefaq, Saidabad, Katchpur Bridge
A-153	Bhasantek	Khilgaon (Taltala)	Bhasantek, Mirpur-14, Mirpur-1, Shaymoli, Asadgate, New Market, Nilkhet, Kataban, GPO, Dainik Bangla, Shapla Chattar, TT Para, Khilgaon Flyover, Khilgaon Taltala
A-154	Mirpur-14	Motijheel (Shapla Chattar)	Up: Mirpur-14, Mirpur-10, Mirpur-1, Technical, Shaymoli, Asadgate, Kalabagan, Science Lab, Shabagh, Paltan, Dainik Bangla, Shapla Chattar Down: Shapla Chattar, Dainik Bangla, Paltan, Shahabag, Science Lab, Kalabagan, Asadgate, Shaymoli, Technical, Mirpur-1, Mirpur-10, Mirpur-14
A-155	Nikunza	Kamlapur	Nikunja Math, Staff Road, Tejgaon, Moghbazar, Mauchak, Kakrail, Fakirapul, Kamlapur
A-156	Kuril Biswa Road	Kuril Biswa Road	Kuril Bishaw Road, Natun Bazar, Rampura, Mauchak, Moghbazar, Satrasta, Mohakhali, Kakoli, Kuril Biswa Road
A-157	Banasree	Mohammadpur	Banasree, Mouchuck, Kakrail, Shabag, Science Lab, Zigatola, Mohammadpur
A-158	Mohammadpur (Sat Masjid)	Naraynganj link Road	Mohammadpur, Asadgate, Since lab, Sahabag, Press Club, Bangladesh Bank, Link Road
A-159	Mohammadpur (Bus Stand)	Naraynganj Link Road	Mohammadpur Bus Stand, Asadgate, Russel Square, Panthapath, Bangla motor, Maghbazar, Malibagh, Kakrail, Nightangle, Fakirapul, Bangladesh Bank, Ittefaq, Saidabad, Jatrabari,
A-160	Mohammadpur (Japan Garden city)	Postagola	Japan Garden City, Shaymoli, Asadgate, Science Lab, Shahbagh, Kakrail, Fakirapul, Bangladesh Bank, Dayaganj Road, Jurain, Postogola
A-161	Mohammadpur Bus Stand	Dhupkhola	Mohammadpur Bus Stand, Shankar, Dhanmondi-15, Jigatala, City College, Science Laboratory, Shahabag, Press Club, Gulistan, Dhupkhola
A-162	Mohammadpur (Sia Masjid)	Rayerbag	Mohammadpur (Shia Masjid), Adabar, Shaymoli, Asadgate, Kalabagan, Science Lab, Shabag, Press Club, Bangladesh Bank, Ittefaq, Jatrabari.
A-163	Mohammadpur	Kamlapur	Tajmahal Road, Shankar, Dhanmondi-15, Jigatala, Science Lab, Shahbagh, Press Club, Adamji Court, Shapla Chattar, Kamalapur
A-164	Shaymoli	Kallaynpur	Shaymoli, Shisu Mela, Asadgate, Kalagagan, Newmarket, Azimpur, Palashi, Kataban, Shahbagh, Gulishtan, Motijheel, Kamalapur
A-165	Mohammadpur (Geneva Camp)	Baniajuri	Geneva Camp, Tajmahal Road, Asadgate, Khamarbari, Farmgate, Shahin College, Mohakhali, Kakoli, Staff Road, Baniajuri
A-166	Mohammadpur (Bus Stand)	Uttara House Building	Mohammadpur (Bus Stand), Town Hall, Asadgate, Farmgate, Mahakhali Railgate, Kakoli, staff road, Kuril, Khilkhet, New Airport Road, Rajlaxmi, house Building

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Route No.	From	To	Stoppages
A-167	Dhophkola	Mirpur-14	Dhupkhola, Motijheel, Press Club, Shahbagh, Kataban, New Market, Asadgate, Shisu Mela, Passport Office, Agargaon, Shawrapara, Kazipara, Mirpur-10, Mirpur-13, Mirpur-14
A-168	Postagola	Azimpur	Postagola, Tikatali, Gulishtan, Shahbagh, Azimpur
A-169	Postagola	Abdullahpur	Postagola, Jurain, Gandaria, Ghuntigar, Doyaganj, Rajdani Super market, Gulistan, Paltan, Kakrail, Mouchak, Malibag Railgate, Rampura bazar, Rampura TV Center, Badda, Shahjadpur, Natun Bazar, Narda, Kuril, Maskot Plaza, Abdullahpur
A-170	Loharpul	Gulshan-2	Loharpul, Dholaikhal, Dayaganj, Rajdhani Market, Ittefaq, Motijheel, Paltan, Kakrail, Moghbazar, Satrasta, Nabisco, Amtali, Gulshan-1, Gulshan-2
A-171	Khilgaon Taltala	Mohammadpur (adabar)	Khilgaon Taltala, Malibagh Rail Gate, Mouchak, Kakrail, Matshabhan, Shahbagh, Science Lab, Jigatala, Shankar, Nurjahan Road, Adabar
A-172	Signboard	Tongi Bridge	Signboard, Jatrabari, Motijheel, Kamalapur, Malibag, Rampura, Badda, Natun bazar, Airport, Tongi Bridge
A-173	Babubazar Bridge	Dhaor Bridge	Babubazar Bridge, Fulbaria, Paltan, Razmoni, Malibagh, Mouchak, Abul Hotel, TV Center, Madha Badda, Natun Bazar, Kuril bishaw road, Airport, Azampur, Abdullahpur, Dhaour Bridge
A-174	Victoria park	Pragoti Shawrani	Victoria Park, Talibazar, Fulbaria, Paltan, Razmoni, Malibagh, Mouchak, Malibagh Railgate, Abul Hotel, TV Center, Maddha Badda, Natun Bazar, Progati Sarani
A-175	Azimpur	Kuril	Palashi, Azimpur, New Market, Scince Lab, Kalabagan, Russel Square, Panhtopath, Sonargaon, Rainbow crossing, Satrashtamore, Nabisco, Finix Road, Shooting Club, Gulshan-1, Badda Link Road, Natun Bazar, Progati Sarani, Gulshan-2, Gulshan-1, Shooting Club, Finix Road, Nabisco, Satrasta, Rainbow crossing, Sonargaon Crossing, Panthapath, Russel Square, Kalabagan, Science Lab, New Market, Nilkhet, Palashi.
A-176	Pallabi (Mirpur-12)	Dhakeswari mandir	Mirpur-12, Mirpur-10, Mirpur-1, Asadgate, Kalabagan, New Market, Dhakeswari Mandir
A-177	Gabtali	Tongi Bridge	Gabtoli, Mazar Road, Dia Bari, Dhaor, Abdullahpur, Tongi
A-178	Pallabi (Mirpur-12)	Abdullapur	Mirpur-12, Mirpur-10, Shewrapara, Agargaon Taltala, Mahakhali, Kakoli, Nikunja, New Airport, Uttara, Abdullahpur
A-179	Uttar Kalshi (Mirpur)	Chandra	Uttar Kalshi, Mirpur-12, Mirpur-10, Mirpur-2, Mirpur-1, Technical, Gabtali, Hemayetpur, Savar, Nabinagar Cantt. Baipail, EPZ, Chandra
A-180	Pallabi (Mirpur-12)	Dhakeswari Mandir	Up: Pallabi, Rokeya Saranai, Pangu Hospital, Sukrabad, New Market, Azimpur, Palashi, Dhakashari Mandir Down: Dhakeswari Mandir, Palashi, Azimpur, New Market, Sukrabad, Pangu Hospital, Rokeya Hospital, Pallabi
A-181	Saver	Badda	Savar, Gabtoli, Shaymoli, Agargaon, Mohakhali, Gulshan-1, Badda
A-182	Mirpur-12	Chandra	Mirpur-12, Mirpur-10, Mirpur-1, Mazar Road, Dhaour, Ashulia, Fantasy Kingdom, Nandan Park, Chandra
A-183	Vashantek	Chandra	Vashantek, Mirpur-14, Mirpur-10, Mirpur-1, Technical, Gabtali, Amin Bazar, Hemayetpur, Savar, Chandra
A-184	Agargaon	Abdullahpur	Agargaon, Kazipara, Shewrapara, Mirpur-10, Mirpur-111/2, Zia Colony, Uttara, Abdullahpur
A-185	Babubazar Bridge	Abdullapur	Babubazar, Shikder Medical, Rayer Bazar, Gabtali, Beri bandh, Dhaour, Abdullahpur
A-186	Ati Bazar (Keraniganj)	Sayedabad	Atibazar, Mohammadpur, Asadgate, Khamarbari, Karwanbazar, Shabag, Press Club, GPO, Gulistan, Joykali Mandir, Hatkhola, Saidabad
A-187	Mohd.Pur (Asad Avenue)	Narayanganj	Asad Avenue, Science Lab, Shahbagh, UBL, Notoredam, Narayanganj
A-188	Hemayetpur	Dhalahsawri	Hemayetpur, Gabtali, Manik Mia Avenue, Farmgate, Shahbagh, Bangladesh Bank, Sayedabad, Dhaleswar
A-189	Hemayetpur	Link Road	Up: Hemayetpur, Gabtoli, Russel Square, Sonargaon, Moghbazar, Malibag, Kakrail, Fakirapul, Bangladesh Bank, Ittefaq, Saidabad, Jatrabari, Link Road. Down: Link Road, Jatrabari, Saidabad, Ittefaq, Bangladesh Bank, Fakirapul, Kakrail, Malibag, Moghbazar, Tongi Diversion Road, Russel Sqaure, Gabtoli, Hemaetpur
A-190	EPZ	Link Road	Up: EPZ, Gabtoli, Asadgate, Farmgate, Shahbag, Pressclub, Dainik Bangla, Ittefaq, Saidabad, Jatrabari, Link Road Down: Link Road, Jatrabari, Saidabad, Ittefaq, Bangladesh Bank, Dainik Bangla, Press Club, Shahbag, Farmgate, Asadgate, Gabtoli, EPZ
A-191	Savar (EPZ)	Chittagong Road	EPZ, Savar, Gabtoli, Technical, Kallaynpur, Shaymoli, Asadgate, Farmgate, Shahbag, Gulistan, Saidabad, Jatrabari, Chittagong Road

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Route No.	From	To	Stoppages
A-192	EPZ	Link Road	EPZ, Savar, Gabtoli, Asadgate, Farmgate, Bangla Motors, Moghbazar, Razarbag, Khilgaon Flyover, Bashabo, Mugda, Sayedabad, Jatrabari, Link Road
A-193	EPZ	Motijheel	EPZ, Gabtoli, Sukrabad, Moghbazar, Malibag, Bangladesh Bank, Motijheel.
A-194	Saver	Keraniganj	Savar, Mohammadpur, Hazaribagh, Flood Embankment, Babubazar, Keraniganj
A-195	Keraniganj	Nandanpark (Chandra)	Keraniganj, Babubazar bridge, Beribadh, Gabtoli, Amin Bazar, Saver, Nabinagar, EPZ, Nandan Park
A-196	Nandan Park	Manikmia Avenue	Nandan Park, Zirani Bazar, Sripur, EPZ, Bypile, Nabinagar, Bishmile, Savar Bazar, Gendda, Hemayetpur, Gabtali, Technical, Manikmia Avenue
A-197	Chandra	Motijheel	Chandra, Gabtoli, Asadgate, Kawranbazar, Moghbazar, Motijheel
1-198	Dhamrai	Gulishtan(Golapshah Mazar)	Dhamrai, Gabtali, Farmgate, Shahbagh, Press Club, Gulistan
A-199	Dhamrai (Islampur)	Motijheel	Up: Islampur, Nabinagar, Asadgate, Farmgate, Shabag, Paltan, Dainik Bangla, Motijheel Down: Motijheel, Dainik Bangla, Paltan, Shahbag, Farmgate, Asadgate, nabinagar, Islampur
A-200	Dhamrai	Motijheel	Dhamrai, Gabtali, Kallaynpur, kalabagan, Shahbagh, Motijheel
A-201	Dhamrai (Dhulivita)	Motijheel	Dhulivita, Gabtali, College gate, Kalabagan, Sciencelab, Motijheel
A-202	Savar	Banasri	Savr, Gabtali, Technical, Mirpur-1, Stadium, Mirpur-10, Shewarapara, Agargaon, Mohakhali, Gulshan-1, Badda Link Road, TV Centre, Banasri
A-203	Tongi (Board Bazar)	Postagola	Board Bazar, Azampur, Airport, Natun Bazar, Rampura, Malibagh, Mouchak, Bangladesh Bank, Dayaganj, Jurain Rail gate, Postagola
A-204	Gazipur (Board Bazar)	Kamalapur	Board Bazar, Abdullahpur, Mohakhali, Farmgate, UBL Crossing, Motijheel, Kamlapur
A-205	South Banashri	Bhulta	Dakhin Banasri, Rampura Bazar, Malibagh Railgate, Sayedabad, Jatrabari, Rayerbagh, Sign Board, Chittagang Road, Katchpur, Tarabo, Bhulta
A-206	Tongi (Cherag Ali)	Sadarghat	Cherag Ali, Jashimuddin, Zia Colony, Satrasta, Moghbazar, Malibagh Rail Gate, Fulbaria, Sadarghat
A-207	Tongi (Cherag Ali)	Dhakeshwari	Cherag Ali, Azampur, Mohakhali, Farmgate, Manikmia, City College, Nilkhet, Etimkhana, Dhakeswari
A-208	Gabtali	Gazipur National University	Gabtali, Kallaynpur, Shaymoli, Kakoli, Khilkhet, Airport, House Building, National University
A-209	Tongi (Cherag Ali)	Motijheel	Up: Cherag Ali, Abdullahpur, Mohakhali, Moghbazar, Malibag, Fakirapul, Al-Helal, Shapla Chattar Down: Shapla Chattar, Al-Helal, Fakirapul, Malibag, Moghbazar, Mohakhali, Cherag Ali
A-210	Tongi (Cherag Ali)	Azimpur	Cherag Ali, House building, Azampur, Airport, Kakoli, Scincelab, New Market
A-211	Konabari	Kamalapur	Konabari, Abdullahpur, Airport, Natun bazar, Rampura, Malibag Rail Crossing, Gulistan, Kamalapur
A-212	Gazipur	Mirpur Chiriakhana	Gazipur, Abdullahpur, Airport, Mohakhali, Shaymoli, Mirpur-1, Chiriakhana
A-213	Fantasy Kingdom	Azimpur	Fantasy Kingdom, House Building, Merul Badda, Malibag, Shahbag, Azimpur
A-214	Nandanpark	Kamalapur	Nandan Park, House Building, Khilkhet, Mohakhali, Nabisco, Moghbazar, Kakali, Kamalapur
A-215	Kamalapur	Nandan Park	Up: Kamalapur, Motijheel, Gulistan, Pressclub, Sahabagh, Farmgate, Mohakhali, Banani, Biswa Road, Khilkhet, Airport, House Building, Abdullahpur, Stationroad, Kamarpara, Ashulia, Zirabo, Narshingapur, Fantasy Kingdom, Bypail, EPZ, Ziranibazar, Nandan Park Down: Nandan Park, Zirani Bazar, EPZ, Bypile, Fantasy Kingdom, Narsinghapur, Zirabo, Ashulia, Kamarpara, Station Road, Abdullahpur, House Building, Airport, Khilkhet, Biswaroad, Banani, Mohakhali, Farmgate, Shahbag, Pressclub, Gulistan, Motijheel, Kamalapur
A-216	Kaliakoir	Kamalapur	Kaliakoir, Azampur, Kakali, Farmgate, Gulistan, Kamalapur
A-217	Chandra	Loharpul	Up: Chandra, Natun Bazar, Rampura, Malibag, Pirjongi Mazar, Gulistan, Shapla Chattar, Ittefaq, Rajdhani Super Market, Dayagani, Dholaikhal, Sadarghat, Loharpul Down: Loharpul, Sadarghat, Dholaikhal, Dayagani, Rajdhani Super Market, Ittefaq, Shgpla Chattar, Gulistan, Pirjongi Mazar, Malibag, Rampura, Notun Bazar, Chandra

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Route No.	From	To	Stoppages
A-218	Kaliakoir	Motijheel (Ideal School More)	Up: Kaliakoir, Kuril Biswa Road, Rampura, Khilgaon Flyover, Kamalapur, Motijheel Down: Motijheel, Kamalapur, Khilgaon Flyover, Rampura, Kuril Biswa Road, Kaliakoir
A-219	Fulbaria	Kapasia	Fulbaria, Paltan, Moghbazar, Mohakhali, Kakali, Airport, Azampur, Tongi, Kapasia
A-220	Fulbaria	Shreepur (Barmi)	Fulbaria, Paltan, Moghbazar, Mahakhali, Kakoli, Airport, Azampur, Tongi, Sreepur
A-221	Fulbaria	Kaliakoir	Fulbaria, Paltan, Moghbazar, Mahakhali, Kakoli, Airport, Azampur, Tongi, Kaliakoir
A-222	Fulbaria	Gazipur	Fulbaria, Shapla Chattar, Moghbazar, Mohakhali, Kakali, Airport, Azampur, Gazipur
A-223	Saidabad	Kaliganj	saidabad, Malibag Railgate, Norda, Airport, Tongi, Kaliganj
A-224	Fulbaria	Manikganj	Fulbaria, Chankarpul, Azampur, Asadgate, Technical, Gabtali, Manikganj
A-225	Saidabad	Gazipur	Saidabad, Moghbazar, Nabisco, Mohakhali, Kakali, Airport, Azampur, Gazipur
A-226	Sayedabad	Gazipur (Toke)	Saidabad, Moghbazar, Mohakhali, Uttara, Tongi, Board Bazar, Toke
A-227	Saidabad	Narayanganj	Saidabad, Jatrabari, Sanir Akhra, Narayanganj
A-228	Saidabad	Narayanganj	Saidabad, Jatrabari, Jurain, Postagola, Narayanganj
A-229	Saidabad	Narayanganj	saidabad, Jatrabari, Postgola, Shaympur, Pagla, Panchabati, Narayanganj
A-230	Adamjee	Saidabad	Adamjee, Jatrabari, Shanir Akhra, Chittagong Road, Saidabad
A-231	Motijheel (Ideal School)	Narayanganj	Motijheel, Saidabad, Jatrabari, Shanir Akhra, Signboard, Narayanganj
A-232	Narayanganj	Sadarghat	Narayanganj, Pagla, Shaympur, Postagola, Banianagar, Dholaikhal, Mill Barack, Sadarghat
A-233	Saidabad	Konabari	Saidabad, Malibagh Railgate, Progoti Shwarani, Uttara, Tongi, Konabari
A-234	Madanganj	Gulistan	Madanganj, Saidabad, Gulistan
A-235	Saidabad	Narayanganj	Saidabad, Link Road, Rayerbagh, Shanir Akhra, Jatrabari, Narayanganj
A-236	Saidabad	Narayanganj	Saidabad, Jatrabari, Shanir Akhra, Rayerbag, Link Road, Narayanganj
A-237	Saidabad	Narayanganj	Saidabad, Jatrabari, Shanir Akhra, Rayerbag, Link Road, Narayanganj
A-238	Motijheel	Narayanganj	Motijheel, Ittefaq, Jatrabari, Link Road, Narayanganj
A-239	Narayanganj	Saidabad	Narayanganj, Panchabati, Fatullah, Pagla, Postogola, Jatrabari, Saidabad
A-240	Kachpur Bridge	Tongi Bastuhara	Katchpur Bridge, Saidabad, Malibag Railgate, Natun Bazar, Airport, Tongi Bastuhara
A-241	Motijheel	Gazipur	Up: Shapla Chattar, Shahbag, Farmgate, Mohakhali, Uttara, Tongi, Gazipur Down: Gazipur, Tongi, Uttara, Mohakhali, Farmgate, Shahbag, Shapla Chattar
A-242	Dhupkhola	Zirani	Dhupkhola, Motijheel, Gulistan, Moghbazar, Mohakhali, Tongi, Zirani
A-243	Dhaleswar	Tongi (Bastuhara)	Dhaleswari, Jatrabari, Malibag Railgate, Pragati Sarani, Airport, Abdullapur, Tongi (Bastuhara)
A-244	Dhaleswar	Cheragali	Dhaleswari, Jurain Railgate, Gandaria station, Dayaganj, Motijheel, Fakirapul, Kakrail, Malibagh, Rampura, Badda
A-245	Madanpur	Abdullahpur	Madanpur, Motijheel, Malibag, Moghbazar, Mahakhali, Kakoli, Abdullahpur
A-246	Motijheel	Nandan Park	Motijheel, Paltan, Nabisco, Kakoli, Airport, Tongi Bazar, Ashulia, Nandan Park
A-247	Motijheel	Chandra	Motijheel, Gulistan, Moghbazar, Mohakhali, Abdullapur, Ashulia, Chandra
A-248	Jatrabari	Mouchak(Gazipur)	Jatrabari, Motijheel, Bishwa Road, Airport, Tongi bazar, Mouchak
A-249	Fulbaria	Kharsur	Fulbaria, Nayanagar, Kadamtali, Kharsur, Tikarpur, Aglabazar, Komarganj, Bardhanpara, Bagmara, Nababganj, Majhirkanda, Bandura, Daudpur, Kharsur
A-250	Gazipur	Postgola	Gazipur, Tongi, Uttara, Airport, Biswa Road, Kakoli, Mohakhali, Farmgate, Shahbag, Gulistan, Motijheel, Doyaganj.
A-251	Kanchpur Bridge	Board Bazar	Katchpur Bridge, Jatrabari, Saidabad, Joykali mondir, Bangladesh Bank, Al-Helal, Kakrail, Moghbazar, Satrasta, Mahakhali, Tongi, Board Bazar
A-252	Bhulta (Tarabo)	Gulishtan	Bhulta, Jatrabari, Saidabad, Gulistan
A-253	Mohamadpur (Bus Stand)	Bhulta (Gausia)	Mohammadpur (Bus Stand), Farmgate, Shabag, Dainik Bangla, Bangladesh Bank, Saidabad, Jatrabari, Bhulata (Gausia)
A-254	Demraghat	Konabari	Demraghat, Saidabad, Malibag Railgate, Progoti Sarani, Abdullapur, Konabari
A-255	Saidabad	Sonargaon (Meghnaghat)	Saidabad, Jatrabari, Katchpur, Madanpur, Moghrapara, New Town, Meghnaghat

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Route No.	From	To	Stoppages
A-256	Chankarpul	Sonargaon (Baradi)	Gulistan, Jatrabari, Katchpur, Madanpur, Moghrapara
A-257	Kanchpur Bridge	Board Bazar	Katchpur Bridge, Motijheel, Malibag, Progoti Sharani, Airport, Abdullahpur, Board Bazar
A-258	Chankarpul	Ghorashal Ferryghat	Chankarpul, Golapshah Mazar, Nabisco, Mohakhali, Kakali, Airport, Ghorashal Ferryghat
A-259	Palashi	Meghnaghat	Palashi, Eden College, Shahbagh, Gulistan, Jatrabari, Shanir Akhra, Meghnaghat
A-260	Fulbaria	Dhamrai	Fulbaria, Newmarket, Asadgate, Shaymoli, Technical, Dhamrai
A-261	Fulbaria	Zirani	Fulbaria, Mogbazar, Satrasta, Abdullapur, Baipile, Zirani
A-262	Meghnaghat	Kamalapur	Meghnaghat, Modonpur, Chittagong Road, Jatrabari, Saidabad, Titipara, Kamalapur
A-263	Pallabi	Keranigonj	Pallabi, Mirpur-10, Kazipara, Farm Gate, Golapshah Mazar, Keraniganj
A-264	Mirpur Chiriakhana	Keranigonj	Chiriakhana, Mirpur-1, Ansar Camp, Farmgate, Golap Shah Mazar, Fulbaria, Nayabazar, 2nd Buriganga Bridge
A-265	Jagganath University	Chandra	Jaggannath University, Fulbaria, Paltan, Satrasta, Progoti Sarani, Chandra
A-266	Jagganath University	Chandra	Jaggannath University, Fulbaria, Paltan, Mohakhali, Kakali, Airport, Chandra
A-267	Motijheel	House Building	Motijheel Komlapur, Pirjongi Majar, Mouchak, Rampura, Bishwa Road, Badda, Norda, Khilkhet, New Airport
A-268	Mirpur Zoo	Khilgaon Community Centre	Sony Cinema hall, Mirpur-2, 10, Kazipara, Shewrapara, Agargaon Link road, Shaheed jahangir gate, Mohakhali (Amtoli), Gulshan-1, Badda, Purbo-Rampura, Chowdhury Para, Malibag Railgate
A-269	Gabtohi Bus Terminal	Kamar para	Mirpur-1,2,10, 11, Kalshi, New Flyover, Airport, Abdullahpur
A-270	Mirpur -2	Kamar para	Up- Mirpur-2, 10, 11, Purobi cinemahall, Kalshi, New Flyover, Shawra Bazar, Airport, Jashim Uddin, Uttara, Abdullahpur, Kamarpara Down- KamarPara, Abdullahpur, Uttara, Jashim Uddin, Airport, Shawra Bazar, Flyover, Kalshi, Purobi Cinemahall, Mirpur-11,10, Mirpur-2
A-271	Gabtohi	gazipur	Mirpur-1, 10, 11, Purobi, kalshi, New Flyover, Airport, Abdullah pur, Gazipur
A-272	Mirpur-1	Kuril Biswa Road	Mirpur-1, TNT Crossing, Stadium West Gate, Proshika More, Milkvita(Chalantika More), Yuntai Resturant More, Mirpur-11, Kalshi More, Matikata, Cantonmant Flyover, Kuril Flyover, Kurul Biswa Road
A-273	Gabtohi	Rampura	Technical, Mirpur-1,2, 10,11, Purobi, Kalshi, Matikata, New Flyover, Kakoli, Gulshan-2, 1, Kalachadpur, Badda, Meradia Bazar.
A-274	Savar	Abdullahpur	Gabtohi, Shayamoli, Mohakhali, Kakoli
A-275	Mirpur-1	Meradia Bazar	Mirpur-2, 10, 11, Purobi, Kalshi, Matikata, New Flyover, Kakoli, Gulshan-2,1, Hatirjheel, Rampura Bridge
A-276	Mirpur-12	Abdullahpur	Up- Mirpur-12, Mirpur DOHS, Kalshi More, Flyover, Khilkhet, Airport, Abdullahpur Down- Abdullahpur, Airport, Khilkhet, Flyover, Kalshi More, Mirpur DOHS, Mirpur-12
A-277	Jiya Colony	Abdullahpur	Up- Jiya Colny, Signal Gate, Jahangir Gate, Mohakhali, Khilkhet, Abdullahpur Down- Abdullahpur, Khilkhet, Mohakhali, Jahangir Gate, Signal, Jiya Colony
A-278	Mirpur-10 (Circle)	Kakoli	Up- Mirpur-10 (Circle), Mirpur-14, Kochukhet, Soinik Club, Kakoli Down: Kakoli, Soinik Club, kochukhet, Mirpur-14, Mirpur-10 (Circle)
A-279	Mirpur Cantonment / Mirpur-12	Mohakhali DOHS	Up- Mirpur Cantonment/ Mirpur-12, Mirpur DOHS, Kalshi More, Jiya Colony, CMH, Dhaka Cantonment, Adamji Cantonment College, Jahangir Gate, Mohakhali DOHS Down- Mohakhali, DOHS, Jahangir Gate, Adamji Cantonment College, CMH, Dhaka Cantonment, Kalshi More, Mirpur DOHS, Mirpur cantonment/ Mirpur-12
A-280	Balughat	Motijheel	Up- Balughat, Cantonment Workshop, Farmgate, Sahbagh, Gulistan, Motijheel DOWN- Motijheel, Gulistan, Sahbagh, Farmgate, Cantonment, Workshop, Balughat
A-281	Mirpur-12	Notun Bazar	Mirpur-12 to Notun Bazar Via Mirpur 11.5, 11, 10 Circle, Kajipara, Shewrapara, Agargaon, Mohakhali, Kakoli, Banani, Gulshan-2, Notun Bazar
A-282	Mirpur-12	Kuril Biswa Road	Mirpur-12 to Kuril Biswa Road Via Mirpur-10 (Circle), Shewrapara, Kajipara, Taltola, Mohakhali, Kakoli to Gulshan-2, Notun Bazar

Source: BRTA as on 02/04/2012