

4.2. Connectivity and interchange between different modes of transport and MRT

The design of the Kamalapur MRT station have to consider the location and functioning of the iconic terminal buildings, both inter-district and commuter, the existing railway system and track layout, and the ICD. Also, some of the privately-owned land on the east side of Outer circular road, along which the MRT line will continue, have already been developed as high-rise commercial and residential buildings. On the west side, open green space in between the terminal building and the office of Bangladesh railway, owned by the railway is an opportunity. Other opportunities are the location of the BRTC bus depot which is an extension of the Saidabad bus terminal, connecting international destinations along with national.

The schematic design, therefore, suggests to develop an interlinked complex of activities rather than relocating all the activities under one roof as a multi-modal transit hub.

For example, the north wing of the MRT station will connect passengers with the main railway terminal, pedestrians from both east and western sides residential areas. South wing of the MRT station will connect with pedestrian and commuters from Motijheel station of Line 6, local bus users. The local bus users will be able to access the BRTC bus terminal, commuter railway terminal and the eastern residential areas.

A liner north south elongated frontage of MRT station and local bus activities will have options to take advantage of open public and green space.

Since MRT station development will need to negotiate with Bangladesh Railway for acquiring land, one incentive can be to offer them to develop extension of the terminal with commercial and public entertainment which is lacking in the area and their corporate office as an integrated building that can accommodate underground parking for the complex users.

Figure 17: Linkages between different modes of transports



4.3. Pedestrian circulation

Figure 18: Conceptual Detail Plan A at the intersection of Station road and Outer circular road



1. Station road with improved streetscape on both side. This will form a main pedestrian access to the North wing of the MRT station. See Section A and B for details.
2. Existing green area with trees which will be partially retained.
3. Public plaza with organized vendors.
4. Main entry/exit of North wing.
5. Access to MRT from the foot over bridge.
6. Foot over bridge connecting eastern part of the ICD. See Figure 10.
7. Entry/ exit from the railway terminal concourse.
8. Down to MRT platform.
9. MRT station North wing.
10. Railway platform.
11. Concourse.
12. Drop-off/Pick-up zone.
13. Waiting area for non-motorized transports.
14. Drive way for motorized parking area.
15. Car parking area.
16. Underground MRT platform.
17. Existing buildings of railway.

Figure 19: Conceptual Section AA' of Station road

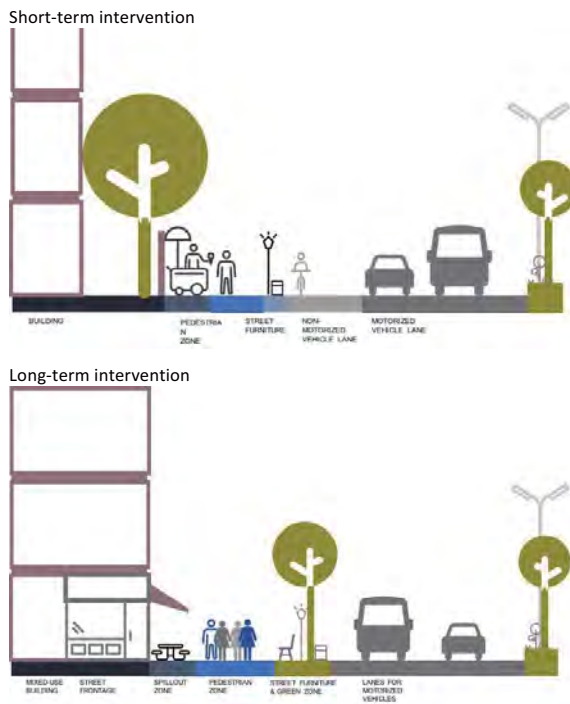
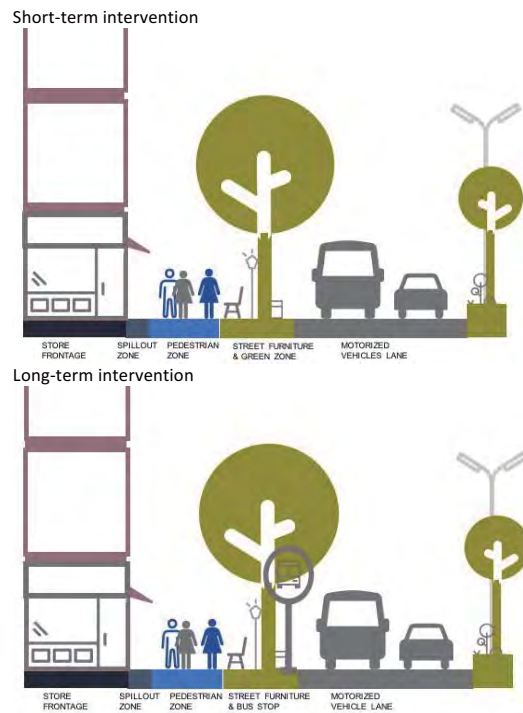


Figure 20: Conceptual Section BB' of Station road



4.4. Vehicular access and parking

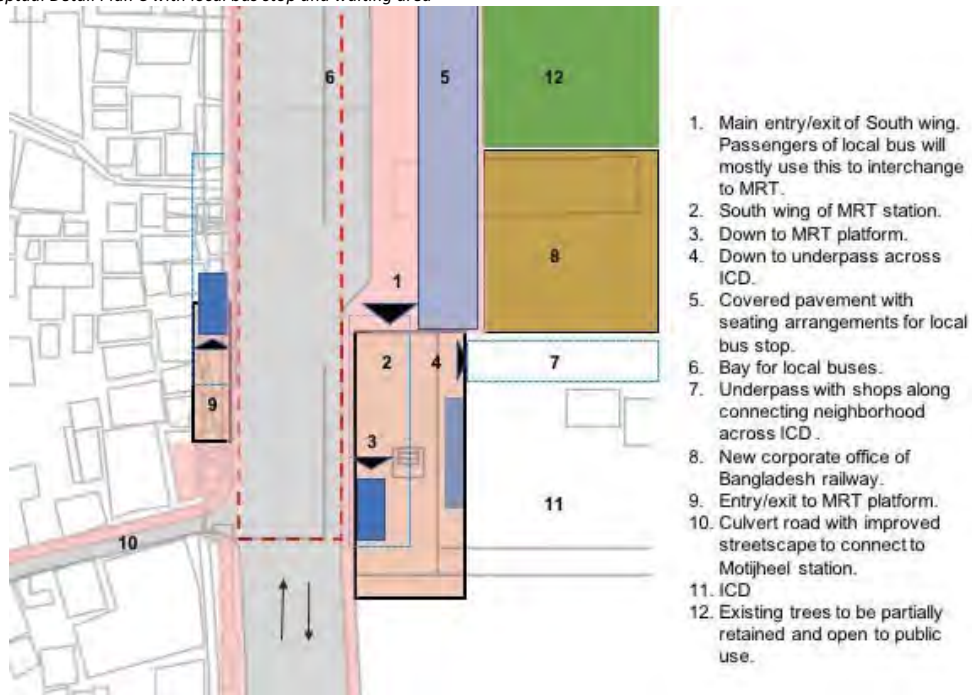
Figure 21: Conceptual Detail Plan B with vehicular drop-off and parking



1. Drop-off/ Pick-up zone for the railway terminal.
2. Waiting area for non-motorized transports.
3. Driveways.
4. Short-time waiting for motorized vehicles.
5. Covered connection to the commuter terminal from local bus stop.
6. Covered pavements with bus stops for local buses.
7. Bay for local buses.
8. Existing trees retained.
9. Outer circular road with improved streetscape.
10. Connected pedestrian network.
11. Commuter terminal.
12. Entry to under ground car parking of the new terminal building.
13. Railway main terminal
14. Connection to BRTC bus terminal
15. Entry/ Exit to terminal and parking facilities

4.5. Local bus stop and waiting

Figure 22: Conceptual Detail Plan C with local bus stop and waiting area



5. IMPLEMENTATION STRATEGY

Some of the interventions discussed in conceptual planning and schematic design can be implemented in different phases.

- Improvement of streetscape of Station road and Toyenbee circular road to connect to Motijheel station of Line 6.
 - Renovation of Railway terminal.
 - Improvement of streetscape of Outer circular road and Atish Dipongkor road.
 - Development of bus stops for local buses along Outer circular and Atish Dipongkor roads.
 - Development of MRT station with parking facilities for both non-motorized and motorized vehicles and lay over parking for local buses.
 - Development of the foot over bridge connecting eastern side of the station.
 - Development of underground connections across ICD.
 - Development of plaza with non-motorized interchange point near the Hospital in Mugda.
 - Development of BRTC bus terminal and connect with the MRT station.
- Short term interventions
- Widening of Culvert road to accommodate pedestrian access along with vehicular access.
 - Widening of three/four neighborhood roads of Kadamtala, Mugdapara and Maniknagar to serve as primary connectors.
 - Redevelopment of public housing in between Culvert road, Station Road, Mazar road and DIT road.
 - Promote mixed use development along the Station road and Atish Dipongkor road.
 - Design new north south connecting road between Outer circular road and Atish Dipongkor road with parking facilities for inter-district buses.
 - Development of commercial parking lot.
 - Expansion of railway terminal.
 - Development of corporate office for the railway with commercial and public entertainment facilities at lower levels, and parking at basement levels.
- Long term interventions

ANNEX 1: HOUSEHOLD PROFILE OF KAMALAPUR

1. General overview of Kamalapur

Kamalapur area is part of Motijheel Thana, one of the administrative divisions of Dhaka city. Motijheel Thana occupies a land area of 4.69 km². In 2011, Motijheel Thana registered a total residential population of 223,676 distributed in 36,059 households. The average household size is 6. Motijheel along with Dilkusha comprises the Central Business District (CBD) of Dhaka. The area houses more offices and business institutions than any other parts of the city. The largest number of corporate headquarters in Bangladesh are located in Motijheel and Dilkusha. Many service, retail, and commercial organizations and agencies have emerged in the adjoining area to support the CBD. Majority of the working population (88%) are engaged in services and the remaining are employed in the industry (12%).

2. Results of the socio-economic survey

A survey was conducted among 500 household living in six areas within 500m of the Kamalapur Railway Station: AGB colony, Bank colony, Ahmaadbag, North Mugdapara, Kamlapur Railway Station, and Kabi Jaasim Road private housing. This section presents the results of the survey.

2.1 Length of stay in Kamalapur

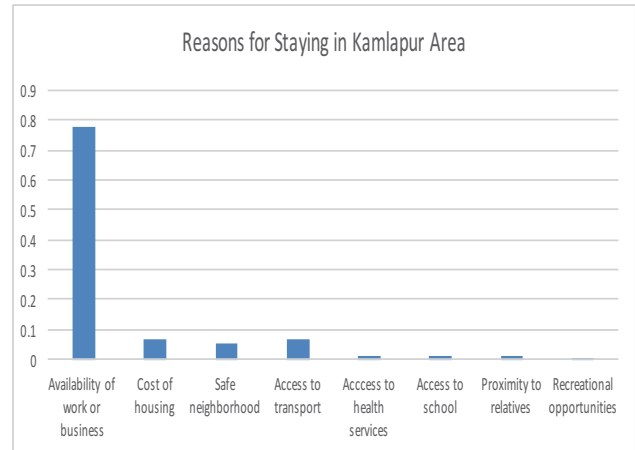
The average length of stay of all household- respondents in Kamalapur is 13 years. Household respondents in Kabi Jasim Road private housing have stayed longer than in other survey areas, averaging 32 years. In terms of distribution, 37 percent of the respondents are residing in Kamalapur for 10 years and above while 28 percent have stayed for about 6-10 years. Around 36 percent are new residents who have stayed in Kamalapur area for less than 5 years.

In terms of length of stay in current residents, household respondents have stayed in their current residence an average of 10 years. In terms of distribution, 51 percent have only stayed for less than five (5) years.

	Table 1: LENGTH OF STAY IN KAMLAPUR AREA									
	N	Average	5 years or lower		6-10 years		Above 10 years		TOTAL	
AGB colony	100	10	33	33%	39	39%	28	28%	100	100%
Bank colony	100	6	51	51%	29	29%	20	20%	100	100%
Ahmaadbag	50	10	17	34%	20	40%	13	26%	50	100%
North Mugdapara	50	13	9	18%	25	50%	16	32%	50	100%
Kamlapur Railway Station	100	6	65	65%	15	15%	20	20%	100	100%
Kabi Jaasim Road private housing	100	32	3	3%	10	10%	87	87%	100	100%
Average	500	13	178	36%	138	28%	184	37%	500	100%

2.2 Reason for choosing to stay in Kamalapur

The availability of work or business opportunities is the primary reason why the household-respondents chose to live in Kamalapur area.



2.3 Household size

Data shows that the average household size in the community is 4.4. This does not include those who are living in and around the station because they are not considered as typical households. Most of them are divorced or separated from families. The average household size in Kamalapur is the same as in Dhaka city in general, which was reported at 4.4.

On the average, at least one member of the household is working, except for households residing in AGB colony wherein, on the average, two (2) members are working.

	Table 2: HOUSEHOLD SIZE	
	Average	Working
AGB colony	4.6	2
Bank colony	4.4	1
Ahmaadbag	4.2	1
North Mugdapara	4.3	1
Kamalapur Railway Station	1.7	1
Kabi Jaasim Road private housing	4.5	1
Average	3.9	1

2.4 Socio-demographic characteristics of the household heads

Age. The average age of the household head is 46 years. Around 33 percent of the household heads have ages within the range of 41 to 50 years. This is followed by household heads whose ages are within 50-60 years. Around 23 percent have ages between 31-40 while only 12 percent are 30 years old and below.

Gender distribution and marital status. Nine of 10 household-respondents are male-headed and married. A large number of homeless people in and around Kamalapur Railway Station are divorced or separated, accounting for 23 percent of the sample obtained in the Kamalapur Railway Station.

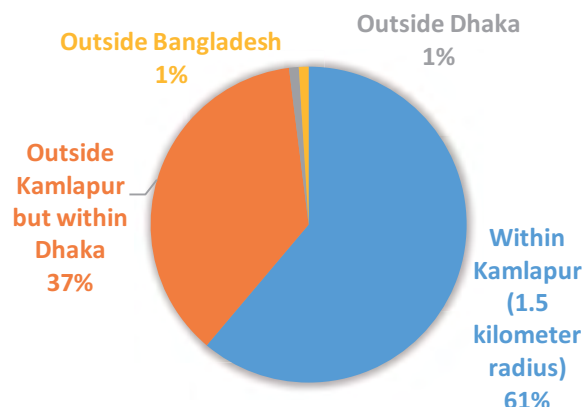
Educational attainment. Forty-three percent of the household heads have post-graduate degrees while 11 percent have bachelor's degrees while 8 percent reached college level. Around 21 percent have at least attended primary or high school. The remaining 19 percent do not have any formal education, majority of them are residing in and around Kamalapur Railway Station.

Source of income or livelihood. Around half of the household respondents (46%) are employed by government or private offices. Most of them live in AGB colony, Bank colony and North Mugdapara. Twenty-six percent are engaged in business activities. They mostly reside in Ahmaadbag, North Mugdapara, and Kabi Jaasim Road private housing. Homeless people in and around Kamalapur railway station work as laborers or transport workers while others are engaged in begging and prostitution activities.

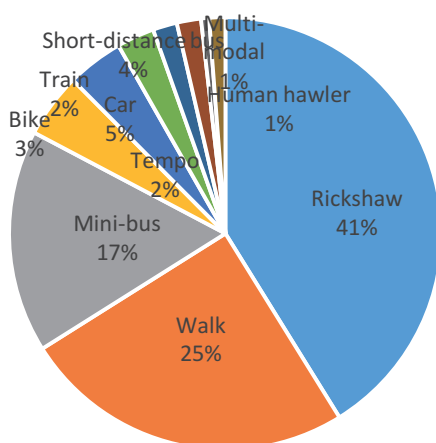
2.5 Travel characteristics

Location of work, business or livelihood. The location of work, business or livelihood of almost half (49%) of the household heads is within Kamalapur area while 37 percent are working outside Kamalapur, but within Dhaka city. Majority of the residents work within Kamalapur area (61%) and they generally travel by rickshaw, minibus or walk to work.

LOCATION OF WORK, BUSINESS, OR LIVELIHOOD ACTIVITIES



MODE OF TRANSPORT



Distance and time traveled and amount spent on travel. On the average, household heads working in Kamalapur area travel 1.5 kilometers from home to work, taking them around 16 minutes to complete the trip. For household heads who work outside Kamalapur, but within Dhaka, they travel for around 3.8 kilometers. On the average, it takes them 32 minutes to complete the trip. For household heads who travel by bus or other public transport around Kamalapur area, they spend around BDT 13/day. For those who travel outside Kamalapur area, but within Dhaka, the household heads spend BDT 34/day, on the average. This corresponds to the minimum fare of BDT 5.00 per trip.

2.6 Socio-demographic characteristics of spouses

The average age of spouses is 38 years old. Majority of them do not have work (74%). For working spouses, majority of them are employed in government or by private offices.

2.7 Household assets

Household assets provide an indication of the socio-economic status of households. Majority of the respondents have at least an electric fan, flat iron, television, mobile phone, and rice cooker. Around 37 percent of respondents have computer or laptop. Half of the respondents have washing machines. Around 11 percent have cars and 9 percent have motorcycles. Homeless people in and around Kamalapur area do not have assets except for personal belongings such as clothes.

2.8 Household monthly income

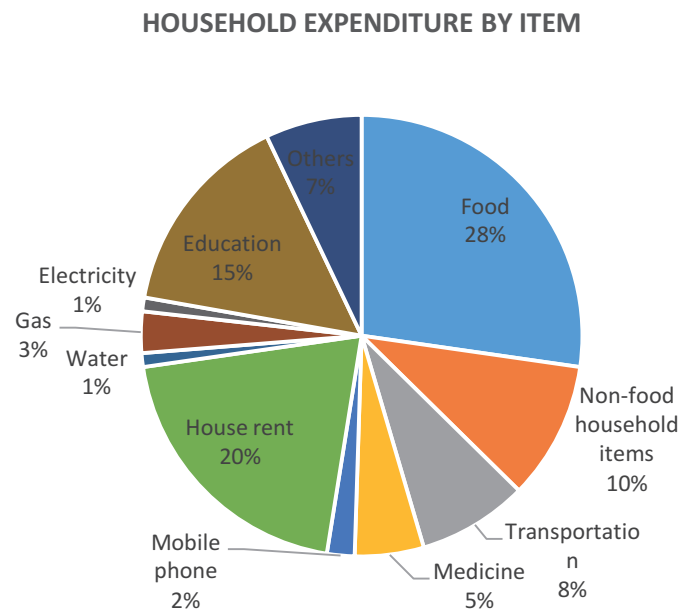
The reported average monthly income of households is around BDT 65,050. Household respondents residing in Kabi Jasim Road private housing have the highest average household monthly income of BDT 148,255. They are followed by households in AGB colony and Bank colony, at BDT 68,540 and BDT 58,377. Homeless people in and around Kamalapur railway station is BDT 7,118, which is only 11 percent of the average household income in the area. The average monthly income of households in Kamalapur area is higher than the average monthly income of households in Dhaka City¹ in the amount of BDT 55,086. It is twice higher than the average monthly income of households in other urban areas in Bangladesh, which is estimated at BDT 24,031.

In terms of distribution of households by level of monthly income, eight (8) percent of the households have monthly income of less than BDT 5,000 while nine (9) percent have average monthly income between BDT 15,001-10,000. Around six (6) percent have monthly income between BDT 10,001-20,000 while another 29 percent have monthly income between BDT 20,001-50,000. Around half of the respondents (48%) have monthly incomes of more than BDT 50,000.

According to the empirical study conducted by Power and Participation Research Center funded by UNDP, if a household residing in Dhaka is earning BDT 14,421, the household belongs to the bottom 40 percent of the city population in terms of income grouping. Households earning between BDT 14,421 to BDT 37,323 belong to the middle 50 percent of the city population. Following this information, around 20 percent of the household respondents belong to the bottom 40 percent of the Dhaka city population. The remaining 19 percent belong to the middle 50 percent in terms of income grouping. The remaining 61 percent belong to the upper income grouping.

2.9 Household monthly expenditures

The average monthly household expenditures in Kamalapur area is estimated to be at BDT 55,426.5. In terms of modal share, 18 percent of household- respondents spend around BDT 10,000 per month for consumption. Another five (5) percent of household respondents spend between BDT 5,001-10,000 per month. Households spending BDT 10,001-30,000 per month constitute 24 percent of the total sample. The remaining 53 percent of the total household respondents spend BDT more than BDT 40,000 per month.



Food and rent takes up the largest share of household expenditures at 28 percent and 20 percent, respectively. Other household expenses include non-food (groceries/dry goods) expenditures (10%), medicine (5%), and mobile communication (2%). Expenditures on electricity, water, and transport eat up around two (2) percent of household expenditures. Transport expenditures share eight (8) percent of total household expenditures.

¹ UNDP.2016. Politics, Governance, and Middle Income Aspirations Realities and Challenges: An Empirical Study

2.10 Household savings

Based on the income and expenditure data, 99 percent of the household-respondents are saving. The average savings is BDT 18,098.99 per month. Household- respondents living in Kabi Jasim Road private housing show the highest monthly savings in the amount of BDT 59,614.

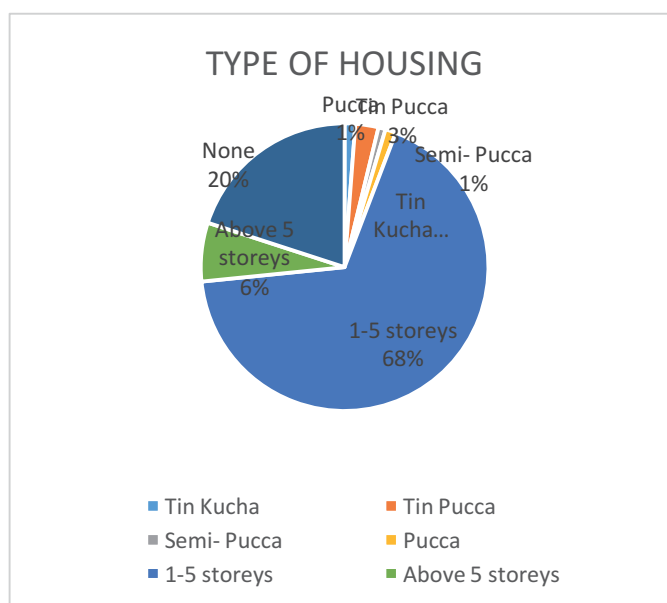
2.11 Access to basic infrastructure services

Source of energy for lighting. Electricity is the main source of energy for lighting. Around 78 percent of the household-respondents use electricity for lighting while 19 percent use gas or LPG. For cooking 79 percent use gas or LPG.

Source of water for drinking and other activities. At the time of the survey, 80 percent of the households have access to piped water². Piped water is used for drinking, cooking, bathing, and other household activities. The remaining 20 percent use public or communal faucets in the area.

Sanitation facilities. Around 86 percent of the household respondents use flush or pour flush toilet facility with septic tanks while 10 percent use the same type of toilet, but without any depository. Around 3 per cent of the household respondents use pit latrine while one (1) percent practice open defecation. In terms of classification of toilet facility, 77 percent of the household respondents use private toilets while four (4) percent use shared toilet facilities. Household-respondents using public or communal toilet constitute 19 percent of the total sample.

Housing characteristics. Housing in Bangladesh is generally classified by type of materials used for construction. Classification is largely associated with durability of materials. Housing types include: (a) kucha (temporary), which is made of made of mud brick, bamboo, sun-grass, wood and occasionally corrugated iron sheets as roof; (b) pucca where walls are made partially of bricks, floors are cemented and roofs of corrugated iron sheets; (c) pucca which permanent, with life span over 25 years; and where walls of bricks and roofs of concrete. There are also multi-storey dwellings. Results of the survey show that 68 percent of the household- respondents live in 1-5 storey housing structures while 20 percent are homeless.



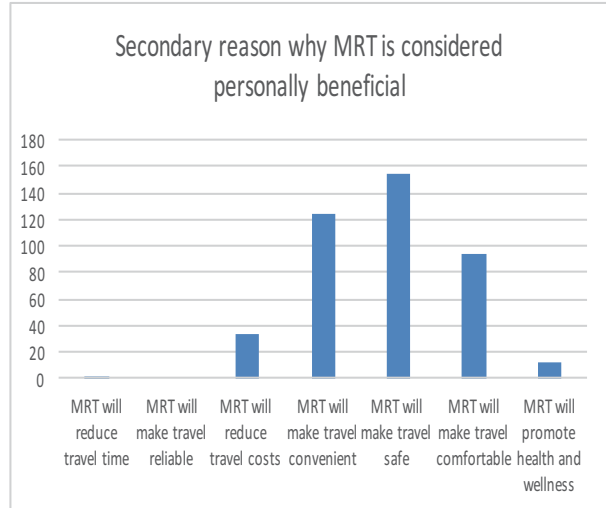
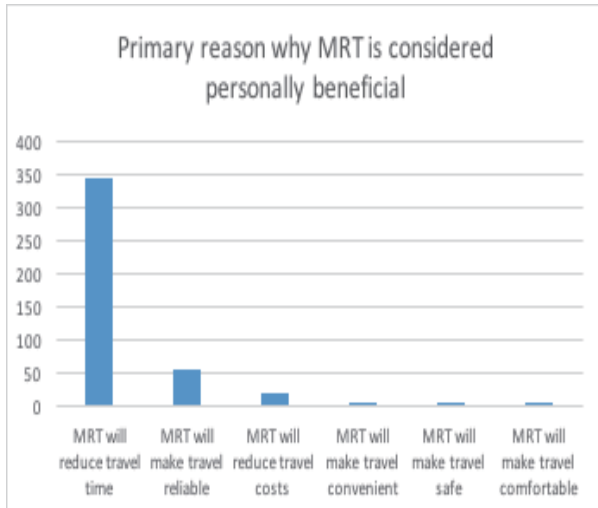
2.12 Perception of community issues

Around 83 and 78 percent of the household respondents consider violent crimes/ gang activity and prostitution as a major community concerns, respectively. In addition, around 62 percent express flooding and exposure to natural hazards as a concern. The same responses were generated across all three survey areas. When asked which of the community issues, the issue that the household respondents consider as first priority and needs to be acted upon, is violent crimes/ gang activity and prostitution and flooding and exposure to natural hazards.

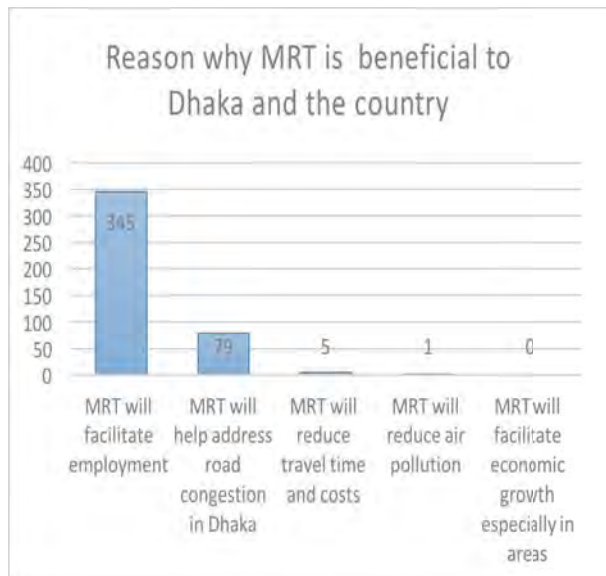
²Homeless people in and around Kamalapur

2.13 Level of awareness of the MRT project

Around 85 percent of the household- respondents consider the MRT project as personally beneficial. Majority of them express that the MRT will primarily reduce travel time. They also express that the MRT will make travel convenient, safe, and comfortable.



Around 86 percent of the household respondents consider the MRT project as beneficial to Dhaka and the entire country. Majority of them express that the MRT will facilitate employment (69%). It will help address road congestion in Dhaka.



ANNEX 2: PEDESTRIAN PROFILE OF KAMALAPUR

A survey covering 300 pedestrians was conducted Kamlapur study area, particularly at the foot over bridge and near BRTC depot from December 10-18, 2017 to generate insights pedestrian travel pattern and walkability of the area.

1. Socio-demographic characteristics of pedestrians

Age. Almost half (48%) of the pedestrians come from the age bracket 21-30 years old. Around 20 percent have ages between 31-40 years. The same number of pedestrians are from the age bracket 20 years and younger.

	Table 1: AGE OF PEDESTRIAN					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
20 years old or younger	22	17%	37	22%	59	20%
21-30 years old	71	55%	74	43%	145	48%
31-40 years old	23	18%	38	22%	61	20%
41-50 years old	7	5%	11	6%	18	6%
51-60 years old	3	2%	9	5%	12	4%
Above 60 years old	2	2%	3	2%	5	2%
TOTAL	128	100%	172	100%	300	100%
AVERAGE	28		30		29	

Sex. Majority (89%) of the pedestrians are male. There are slightly more female pedestrians near BRTC depot than at the foot over bridge.

	Table 2: GENDER OF PEDESTRIAN					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Male	115	90%	152	88%	267	89%
Female	13	10%	20	12%	33	11%
TOTAL	128	100%	172	100%	300	100%

Residence. Majority of the pedestrians reside within Kamalapur area (69%). However, at the foot over bridge, majority reside in areas outside Kamalapur area, but within Dhaka city.

	Table 3: RESIDENCE OF PEDESTRIAN					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Within Kamalapur	59	46%	149	87%	208	69%
Outside Kamalapur but within Dhaka	69	54%	23	13%	92	31%
Outside Dhaka	-	-	-	-	-	-
TOTAL	128	1	172	1	300	100%

Occupation. The occupations of pedestrians are varied. At the foot over bridge, 27 percent are students while 25 percent are engaged in business. Near BRTC depot, 28 percent are working in

factories and 23 percent are students. Overall, students account for the majority of the pedestrians (25%) and followed by factory workers (19%).

	Table 4: OCCUPATION OF PEDESTRIAN					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Government employment	8	6%	6	3%	14	5%
Office employment	12	9%	12	7%	24	8%
Business/ commerce	32	25%	10	6%	42	14%
Factory work	9	7%	49	28%	58	19%
Transport related work	4	3%	16	9%	20	7%
Shop, store & service work	3	2%	5	3%	8	3%
Laborers & unskilled work	1	1%	3	2%	4	1%
Hawking, itinerant vending	-	-	-	-	-	-
Hotel and inn workers	2	2%	13	8%	15	5%
Small business	16	13%	11	6%	27	9%
Retired	2	2%	2	1%	4	1%
Housewife	4	3%	6	3%	10	3%
Student	35	27%	39	23%	74	25%
Unemployed	-	-	-	-	-	-
TOTAL	128	100%	172	100%	300	100%

2. Travel pattern

Trip origin and destination. Around 47 percent of the pedestrians at the foot over bridge are from within Kamalapur area and 53 percent are from areas outside Kamalapur, but within Dhaka. The destination of the majority (94%) are within Kamalapur area. Majority of pedestrians near BRTC depot come from Kamalapur area (85%). Almost half (48%) are bound to Kamalapur area and the remain 52 percent are bound to areas outside Kamalapur, but within Dhaka.

Overall, 69 percent of the pedestrians originate within Kamalapur area while 31 percent are from other parts of Dhaka. Around 68 percent walk towards Kamalapur area while 32 percent are going outside Kamalapur area.

	Table 5: TRIP ORIGIN AND DESTINATION											
	Foot over bridge				Near BRTC depot				TOTAL			
	Origin		Destination		Origin		Destination		Origin		Destination	
	N	%	N	%	N	%	N	%	N	%	N	%
Within Kamalapur	60	47%	120	94%	147	85%	83	48%	207	69%	203	68%
Outside Kamalapur, but within Dhaka	68	53%	8	6%	25	15%	89	52%	93	31%	97	32%
Outside Dhaka	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	128	100%	128	100%	172	100%	172	100%	300	100%	300	100%

Purpose of travel. Majority of the pedestrians walk to or from work (84%) while five (5) percent go to or from school. Eight (8) percent of pedestrians express that the walk to do errands in the area. The two survey areas exhibit the same pattern.

	Table 6: PURPOSE OF TRAVEL					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Go to work	99	77%	115	67%	214	71%
Return from work	9	7%	29	17%	38	13%
Go to school	5	4%	2	1%	7	2%
Return from school	3	2%	5	3%	8	3%
Do business trips	1	1%	5	3%	6	2%
Go shopping	-	-	-	-	-	-
Run errands	11	9%	13	8%	24	8%
Visit family and relatives	-	-	3	2%	3	1%
Visit friends	-	-	-	-	-	-
Leisure	-	-	-	-	-	-
TOTAL	128	100%	172	100%	300	100%

Frequency of walking. Around 71% of the pedestrians walk/travel every day.

	Table 7: FREQUENCY OF TRAVEL					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Once a week	7	5%	-	-	7	2%
Twice a week	-	-	-	-	-	-
3 times a week	1	1%	1	1%	2	1%
4 times a week	-	-	7	4%	7	2%
Weekdays (Monday to Friday)	-	-	10	6%	10	3%
Everyday	84	66%	128	74%	212	71%
Sometimes	36	28%	26	15%	62	21%
TOTAL	128	100%	172	100%	300	100%

Frequency of passing the area. Seventy-six percent of the pedestrians pass by the area every day.

	Table 8: FREQUENCY PASSING THE AREA					
	Foot over bridge		Near BRTC depot		TOTAL	
	N	%	N	%	N	%
Once a week	13	10%	4	2%	17	6%
Twice a week	3	2%	0	0%	3	1%
3 times a week	3	2%	1	1%	4	1%
4 times a week	3	2%	7	4%	10	3%
Weekdays (Monday to Friday)	-	-	11	6%	11	4%
Everyday	101	79%	127	74%	228	76%
Sometimes	5	4%	22	13%	27	9%
TOTAL	128	100%	172	100%	300	100%

Estimated walking time. On the average, walking time of pedestrians at the foot over bridge is 21 minutes while those at the BRTC depot take 25 minutes to reach their respective destinations.

	Table 9: ESTIMATED WALKING TIME		
	Foot over bridge	Near BRTC depot	TOTAL
AVERAGE	21	25	23
MODE	10	30	30
MAX	60	60	60
MIN	3	5	3

3. Assessment of walkability

Pedestrians interviewed at the foot over bridge are generally dissatisfied with their overall walking experience. Specifically, they are dissatisfied with the (a) quality sidewalk/ pedestrian road conditions, (b) personal safety as well as safety of women and children in sidewalks, walkways and street crossing, (c) protection from harsh weather, places to sit, things to see and do; and (d) visual appeal. They are also leaning towards dissatisfaction when it comes to ease in transferring accessing bus and/or railway.

Pedestrians are neither satisfied nor dissatisfied with (a) availability/ adequacy of sidewalks/ pedestrian roads, (b) adequacy of street lighting, (c) connectivity of walkways towards destination, and (d) availability of signage and street signs.

Foot over bridge	Table 10: ASSESSMENT OF WALKABILITY							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Availability/ adequacy of sidewalks/ pedestrian roads	2.80	3	-	46	61	21	-	-
Sidewalk/pedestrian road conditions/ quality	3.55	4	-	16	25	87	-	-
Personal safety in sidewalks, walkways and street crossing	3.79	4	1	2	20	105	-	-
Safety of roads to women and children in sidewalks, walkways and street crossing	3.82	4	-	2	21	103	2	-
Adequacy of street lighting	2.88	2	-	62	22	41	3	-
Well connected walkways going to where I want	3.12	3	-	5	104	18	1	-
Ease in transferring accessing bus and/or railway	3.16	3	-	27	58	39	3	1
Protection from harsh weather, places to sit, things to see and do	3.91	4	1	1	8	117	-	1
Visual appeal/ cleanliness of surroundings	3.98	4	-	1	5	117	5	-
Ease in crossing the streets	3.43	3	-	6	67	50	4	1
Availability of signage/ street signs	3.24	3	-	1	110	9	1	7

Pedestrians who were interviewed near the BRTC bus depot are generally satisfied with (a) availability/ adequacy of sidewalks/ pedestrian roads, (b) sidewalk/pedestrian road conditions/ quality, (c) adequacy of street lighting, (d) ease in transferring accessing bus and/or railway, and (e) personal safety in sidewalks, walkways and street crossing.

However, they are leaning towards dissatisfaction when asked about (a) connectivity of the walkways towards their destinations, and (b) protection from harsh weather, places to sit, things to see and do, visual appeal/ cleanliness of surroundings. Majority of them also express dissatisfaction in terms of ease in crossing the streets and availability of street signage.

Near BRTC bus depot	Table 11: ASSESSMENT OF WALKABILITY							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Availability/ adequacy of sidewalks/ pedestrian roads	2.39	2	-	113	50	9	-	-
Sidewalk/pedestrian road conditions/ quality	2.60	2	-	81	79	12	-	-
Personal safety in sidewalks, walkways and street crossing	2.83	3	2	55	86	29	-	-
Safety of roads to women and children in sidewalks, walkways and street crossing	2.82	3	0	63	77	31	1	-
Adequacy of street lighting	2.39	2	124	125	31	13	3	-
Well connected walkways going to where I want	3.03	3	16	16	122	25	3	-
Ease in transferring accessing bus and/or railway	2.63	2	3	84	61	21	3	-
Protection from harsh weather, places to sit, things to see and do	3.15	3	1	23	103	40	5	-
Visual appeal/ cleanliness of surroundings	3.32	3	-	9	103	58	2	-
Ease in crossing the streets	3.73	4	-	3	49	113	5	2
Availability of signage/ street signs	3.83	4	-	1	38	124	7	2

Overall, majority of the pedestrians interviewed are satisfied with (a) availability/ adequacy of sidewalks/ pedestrian roads, (b) adequacy of street lighting, and (c) ease in transferring accessing bus and/or railway.

However, they are dissatisfied with (a) personal safety and safety of women and children in sidewalks, walkways and street crossing, (b) connectivity of walkways to destinations, (c) protection from harsh weather, places to sit, things to see and do, (d) visual appeal/ cleanliness of surroundings, (e) ease in crossing the streets, and availability of street signage.

Pedestrians are generally neither satisfied nor dissatisfied with the quality of sidewalk/pedestrian road conditions.

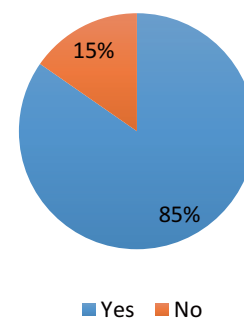
ALL	Table 12: ASSESSMENT OF WALKABILITY							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Availability/ adequacy of sidewalks/ pedestrian roads	2.57	2	-	159	110	30	-	-
Sidewalk/pedestrian road conditions/ quality	3.01	3	-	97	103	99	-	-
Personal safety in sidewalks, walkways and street crossing	3.24	4	3	56	106	134	-	-
Safety of roads to women and children in sidewalks, walkways and street crossing	3.25	4	-	65	97	134	3	-
Adequacy of street lighting	2.60	2	-	186	53	54	6	-
Well connected walkways going to where I want	3.07	3	5	21	226	43	4	-
Ease in transferring accessing bus and/or railway	2.86	3	3	111	118	60	6	1

Protection from harsh weather, places to sit, things to see and do	3.47	4	2	24	110	157	5	1
Visual appeal/ cleanliness of surroundings	3.60	4	-	9	108	175	7	-
Ease in crossing the streets	3.60	4	-	9	116	162	9	3
Availability of signage/ street signs	3.58	3	-	2	148	132	8	9

1.1. Awareness of MRT project

AWARENESS OF MRT PROJECT

Around 85 percent of the household respondents are aware of the MRT project. Around 98 percent of those who have knowledge about the MRT project consider it as personally beneficial. Majority of them express that the MRT will primarily reduce travel time. They also express that the MRT will primarily reduce travel time. It will also reduce travel costs and will make travel safe.



ALL	REASON WHY MRT IS PERSONALLY BENEFICIAL			
	PRIMARY		SECONDARY	
	N	%	N	%
MRT will reduce travel time	268	91%	-	-
MRT will make travel reliable	12	4%	-	-
MRT will reduce travel costs	13	4%	92	31%
MRT will make travel convenient	-	-	12	4%
MRT will make travel safe	3	1%	145	49%
MRT will make travel comfortable	-	-	40	14%
MRT will make travel convenient	-	-	7	2%
MRT will promote health and wellness	-	-	-	-
TOTAL	296	100%	296	100%

Around 96 percent of the household respondents consider the MRT project as beneficial to Dhaka and the entire country. Majority of them express (78%) express that the MRT will facilitate employment. It will reduce travel time and costs, and will facilitate economic growth especially in areas near the MRT.

ALL	Table 13: REASON WHY MRT IS BENEFICIAL TO DHAKA AND COUNTRY			
	PRIMARY		SECONDARY	
	N	%	N	%
MRT will facilitate employment	230	78%	-	-
MRT will help address road decongestion/ traffic in Dhaka	25	8%	9	3%
MRT will reduce travel time and costs	38	13%	109	37%
MRT will reduce air pollution	3	1%	26	9%
MRT will facilitate economic growth especially in areas near the MRT	-	-	142	48%
No answer	-	-	10	3%
TOTAL	296	100%	296	100%

ANNEX 3: KAMALAPUR BUS OPERATORS' PROFILE

1. Bus inventory

A total of 16 bus operators operating within the Kamalapur study area were surveyed within the period December 10-18, 2017. The 16 bus operators own a total of 922 buses.

Fleet size. Majority can be considered medium-scale operators, with 44 percent owning 10-29 buses and 19 percent owning 30-49 buses. Only two operators have a fleet of 50 or more buses.

Table 1: Bus inventory- fleet size		
Number of buses	Number of bus operators	Percent of total
Less than 10	-	-
10 to 29	7	44%
30 to 49	3	19%
50 to 69	1	6%
70 to 99	1	6%
more than 100	4	25%
TOTAL	16	100%

Bus type or service. The fleet of bus companies have the following types of buses:

Bus Type	Definition
Large	Buses for long distance travel (>97 km.) with 36-42 seats. In most cases, these buses travel across one and more districts.
Medium (mini-buses)	Buses that service long distance routes with seating capacity of up to 38 seats. In most cases these buses travel across one and more districts.
Human haulers	These are legunas, tempas, maxis, etc. which serve as the main local transport within Kamalapur and its surrounding areas. They travel less than 30 km.

In terms of bus type, the fleet of bus companies surveyed are mostly mini-buses (73%, see tables below) and non-air conditioned (82% of total) buses. Only a few operators offer air-conditioned bus services.

Table 2: Bus inventory by bus type				
Type	AC	Non AC	Total	% of total
Large buses	55	57	112	27%
Mini- buses	21	288	309	73%
Human haulers	-	-	-	-
TOTAL	76	345	421	100%

AC = Air conditioned

Seating and standing capacity. Large buses can accommodate 36-42 people in one trip. Mini buses carry 38 people, but can allow for more standing capacity.

By type of fuel used and age. Most of the buses owned by the bus operators surveyed run on diesel (93%). The remaining seven (7) percent runs on CNG. In terms of age, all of the buses are less than 10 years old. 69 percent of these buses are less than 5 years old. A study, however, indicated that

determining the age of buses can be less straightforward as the age of imported buses are counted from the date of registration in Bangladesh and not by the year it was made.³

Table 3: Bus inventory by fuel used and age		
By type of fuel used	Count	%
Gasoline	-	-
Diesel	861	93%
LNG	-	-
CNG	61	7%
TOTAL	922	100%
By age		
< 5 years	639	69%
5-10 years	283	31%
>11 years	-	-
TOTAL	922	100%

Bus operation and maintenance. At the time of the survey, 83 percent of the total number of buses are operational. Of this number, about 77 percent of the large buses and 85 percent of the mini buses are in operation.

Table 4: Buses in operation and under maintenance								
	In operation			Under maintenance			Total	% in operation
Type	AC	Non AC	Total	AC	Non-AC	Total		
Large buses	71	86	157	8	39	47	204	77%
Mini- buses	42	565	607	6	105	111	718	85%
Human haulers	-	-	-	-	-	-	-	-
TOTAL	113	651	764	14	144	158	922	83%

Driver per bus. The bus companies allot an average of two (2) drivers per bus.

Table 5: Driver per bus			
Type	AC	Non AC	Total
Large buses	2	2	2
Mini- buses	2	2	2

Peak and off-peak operation. As for peak-and-off peak operation, 54 percent of the large bus fleet are deployed during peak period. This drops to 26 percent during off-peak hours. For mini-buses, there is only a small difference between peak and off-peak time. During peak time, 43 percent of the mini-buses are deployed. This drops slightly to 38 percent during off- peak time.

Table 6 Peak and off-peak operation			
Type	Peak total	Off peak total	Total
Large buses	54%	26%	80%
Mini- buses	43%	38%	81%
TOTAL	46%	23%	69%

³ World Bank (2009). South Asia Political Economy Governance Issues Note No.1. *Operationalizing Political Economy: Urban Bus Operators in Dhaka*. Washington, DC.

Routes⁴. The bus companies service a total of 48 routes, almost all of which are considered long distance (greater than or equal to 100 km). The average route length is 218 kilometers. Since buses along these routes take long time to reach their destination, the average number of round trips undertaken (e.g., from origin to destination and back) is 1.

Table 7: By route length: number of route, average number of round trips and buses assigned per route						
Distance	Average route lengths	No. of routes	Average no. of round trips	Number of buses assigned		
				Max	Min	Average
Long distance	218	48	1	40	1	11
Short distance	-	-	-	-	-	-

Ticket counters. The survey asked whether the bus companies are provided with ticket counters in Kamlapur area. 15 bus operators have one (1) ticket counter in Kamlapur. Only one operator has two (2) ticket counters.

Table 8: Provision of ticket counters	
Number of ticket counters	No. of routes
0	
1	15
2	1

Ticket price. The bus operators surveyed provided a range of responses on ticket prices. The average ticket prices reported by service and bus type are highly variable.⁵ This may not only due to the differences in distance but could also reflect the poor regulation of fares as operators and conductors are known to arbitrarily impose higher than the approved fares for a given distance or service.⁶

Ticketing system. As for ticketing system, bus operators still rely heavily on manual or handwritten system (50%). However, a number have already installed computerized and started issuing tickets online (19%). Others have combined with other methods of ticketing: handwritten, computerized and online. They comprise 19 percent of the total.

Table 9: Ticketing system		
System	Number	Percentage
Handwritten only	8	50%
Handwritten and computerized	2	13%
Handwritten and online	-	-
Handwritten, computerized and online	3	19%
Computerized only	-	-
Computerized and online	3	19%
Online only	-	-
TOTAL	16	100%

⁴ The survey asked the number of passengers carried by bus per day but the bus companies did not provide any response to this question.

⁵ Fares were not reported by routes thus it is difficult to determine if there is indeed some variation in fares on the same route. Also, bus companies are unlikely to report the actual fares imposed vis-à-vis the standard government-approved fares.

⁶ World Bank (2009). South Asia Political Economy Governance Issues Note No.1. *Operationalizing Political Economy: Urban Bus Operators in Dhaka*. Washington, DC

2. Garage, parking and maintenance

Garage facilities. Around 69 percent of the bus companies surveyed own a garage while 25% are renting. The average size of owned garage is 20 decimals. For rented garage, the average size is 5 decimals.

Type	Count	Percentage	Average size in decimals
Own	11	69%	20
Renting	4	25%	5
Own and Rent	1	6%	5
TOTAL	16	100%	

Parking facilities. Approximately 69 percent of bus companies own their parking spaces. The average size of owned parking space is 27 hectares while 8.5 hectares for rented parking space.

Type	Count	Percentage	Average size in decimals
Own	11	69%	27
Renting	4	25%	8.5
Own and Rent	1	6%	50
TOTAL	16	100%	

Routine maintenance. All the bus operators reported that they conduct routine maintenance of buses once a month. Ninety-three percent (15 operators) outsource mechanics to do routine maintenance.

Major repairs. Seventy- five percent (12 bus operators) also reported that they conduct major repair at least once a month. The rest do 2-4 times in a month. All operators outsource mechanics to do major repairs.

3. Priorities improvements and other concerns

Bus companies were also asked to identify the three most important aspects of the bus operation that would need improvement. The results show the following:

Priority 1: Increase space for buses and cleanliness of the place both inside and outside

Priority 2: There should be a mosque inside the terminal

Priority 3: Gas should not be taken by closing roads

Improvement	TOP 1	TOP 2	TOP 3	TOTAL
Spaces for buses should be increased	7			7
Inside & outside should be cleaned	4	2	1	7
Increased security system/ Make security system/ should ousted drunken people from here		1		1
Should arranged permanent police inside the terminal	1			1
Should repair terminal's roof	1			1
Should build mosque inside the terminal		7	2	9
Terminal should be released from traffic jam	1	3	3	7
Terminal should be released from robbery/theft		1	3	4

Table 12: Improvements in bus operation				
Improvement	TOP 1	TOP 2	TOP 3	TOTAL
Gas should not be taken by closing roads	1		4	5
Sitting place for female passengers should be increased			1	1
Should develop administrative sector/provide solution of all administrative problems		1		1
Flyover is needed			1	1

4. Awareness of the MRT project

All of the bus operators are aware of the MRT project. All of them consider the MRT as personally beneficial. They expressed that the MRT will primarily reduce travel time (63% of total responses) and will make travel reliable (31%). In addition, the MRT will reduce travel costs (44%) and will make travel convenient (25%).

All of the operators also consider the MRT as beneficial for Dhaka and the entire country. Operators believe that the MRT will facilitate employment and will help address road congestion in Dhaka. They also believe that that MRT will reduce travel time and costs.

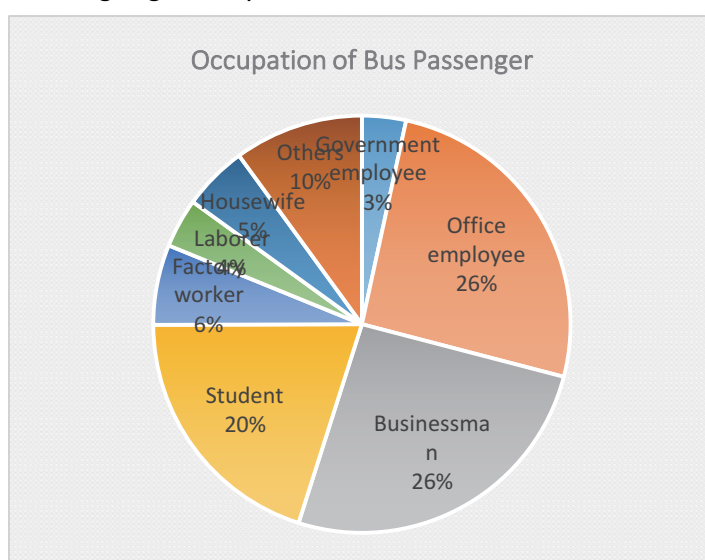
ANNEX 4: RESULT OF THE BUS PASSENGER SURVEY

A total of 500 passengers were surveyed within December 10-18, 2017. The following are the results of the survey:

1. Passenger respondents profile

Age and gender of respondents. The respondents are predominantly male (90%) and are at the younger end of the working-age demographic. The average age is 33 years old.

Occupation of respondents. Majority of the passengers surveyed are working as office employees (26%) or are engaged in business (26%). Around 20 percent are students. The occupations of the rest of the in the bus passengers who were surveyed include government employment, factory work, and unskilled labor, among others. Around 5 percent of the bus passengers are housewives.



2. Trip characteristics

Purpose. Majority of the respondent's trip were to visit family/friends (46%), go to/from work (17%). The same pattern is exhibited across the three (3) survey areas.

	Table 1: PURPOSE OF TRAVEL							
	Buses along Atishdiponkor Road		Inter-district buses Inter-district buses at BRTC bus depot		Local buses along Outer Circular Road		ALL	
	N	%	N	%	N	%	N	%
Go to work	18	12%	24	12%	67	45%	109	22%
Return from work	35	23%	45	23%	6	4%	86	17%
Go to school	-	-	1	1%	11	7%	12	2%
Return from school	-	-	2	1%	2	1%	4	1%
Do business trips	1	1%	3	2%	10	7%	14	3%
Go shopping	1	1%	1	1%	4	3%	6	1%
Run errands	11	7%	1	1%	1	1%	13	3%
Visit family and relatives	76	51%	120	60%	36	24%	232	46%
Visit friends	8	5%	3	2%	12	8%	23	5%
TOTAL	150	100%	200	100%	150	100%	500	100%

Frequency of travel. Most of the trips made by the respondents are infrequent. Around 39 percent of the trips happen once a month and 24 percent take the trip at least once a year. This shows that majority of the respondents are considered migrant population, whose familial and social ties lies outside Dhaka.

	Table 2: FREQUENCY OF TRAVEL							
	Buses along Atish Diponkor Road		Inter-district buses at BRTC bus depot		Local buses along Outer Circular Road		ALL	
	N	%	N	%	N	%	N	%
Everyday	6	4%	4	2%	7	5%	17	3%
Every day except weekends	-	-	1	1%	29	19%	30	6%
2-3 times a week	3	2%	6	3%	32	21%	41	8%
Once a week	16	11%	13	7%	19	13%	48	10%
Once a month	68	45%	106	53%	22	15%	196	39%
Once a year	54	36%	55	28%	11	7%	120	24%
2-3 times a year	3	2%	14	7%	30	20%	47	9%
6 times a year	-	-	1	1%	0	0%	1	0%
TOTAL	150	100%	200	100%	150	100%	500	100%

Mode of travel, travel and waiting time. Majority of passengers riding the buses along Atish Dipankar Road from point of origin to Kamlapur area use non-air-conditioned buses. It takes them, on the average, 80 minutes to travel. While at Kamlapur, they spend almost half an hour waiting for buses. From Kamlapur to destination, 98 percent of the passengers use non- air-conditioned buses.

Table 13: MODE OF TRAVEL, ESTIMATED TRAVEL AND WAITING TIME, ATISH DIPANKAR ROAD							
Buses at Atish Diponkor	MODE OF TRAVEL FROM ORIGIN TO KAMLAPUR		EST TRAVEL TIME	EST. WAITING TIME AT KAMLAPUR	MODE OF TRAVEL FROM KAMLAPUR TO DESTINATION		EST TRAVEL TIME
	N	%			N	%	
Bus AC	2	1%	80	27	1	1%	90
Bus Non- AC	136	91%			147	98%	
Car	-	-			-	-	
Rickshaw	10	7%			-	-	
Legunas, tempos, maxis	-	-			2	1%	
CNG	2	1%			-	-	
Walking	-	-			-	-	
Others	-	-			-	-	
TOTAL	150	1%			150	100%	

Half of the passengers using inter-district buses along Atish Diponkor Road use non-air-conditioned buses from point of origin to Kamlapur area. Others use rickshaw (24%) and CNG (11%). It takes them around 73 minutes to reach Kamlapur. While at Kamlapur, they wait for another 34 minutes to transfer another bus. From Kamlapur to destination, majority use air-conditioned buses (71%) while others use non-air-conditioned buses (27%). The estimated travel time is 169 minutes.

Table 14: MODE OF TRAVEL, ESTIMATED TRAVEL AND WAITING TIME, BRTC DEPOT							
Buses at BRTC depot	MODE OF TRAVEL FROM ORIGIN TO KAMLAPUR		EST TRAVEL TIME	EST. WAITING TIME AT KAMLAPUR	MODE OF TRAVEL FROM KAMLAPUR TO DESTINATION		EST TRAVEL TIME
	N	%			N	%	
Bus AC	16	8%	73	34	141	71%	169
Bus Non- AC	100	50%			53	27%	

Car	1	1%			2	1%
Rickshaw	47	24%			2	1%
Legunas, tempos, maxis	-	-			-	0%
CNG	22	11%			1	1%
Walking	1	1%			-	0%
Others	13	7%			1	1%
TOTAL	200	100%			200	40%

Around 83 percent of the passengers using local buses along Outer Circular Road use non-air-conditioned buses from point of origin to Kamlapur area. Others use rickshaw (3%). It takes them around 100 minutes to reach Kamlapur. While at Kamlapur, they wait for another 22 minutes to transfer another bus. From Kamlapur to destination, majority still use non-air-conditioned buses (71%) while others use non-air-conditioned buses (27%). The estimated travel time is almost one (1) hour.

Local buses along Outer Circular Road	MODE OF TRAVEL FROM ORIGIN TO KAMLAPUR		EST TRAVEL TIME	EST. WAITING TIME AT KAMLAPUR	MODE OF TRAVEL		EST TRAVEL TIME FROM KAMLAPUR TO DESTINATION
	N	%			N	%	
Bus AC	-	-	100	22	-	-	57
Bus Non- AC	125	83%			150	100%	
Car	1	1%			-	-	
Rickshaw	4	3%			-	-	
Legunas, tempos, maxis	-	-			-	-	
CNG	1	1%			-	-	
Walking	-	-			-	-	
Others	19	13%			-	-	
TOTAL	150	100%			-	-	

Overall, majority of the bus passengers at Kamlapur area travel from their point of origin to Kamlapur by non-air-conditioned buses (72%). From Kamlapur area, they also majority also use non-air-conditioned buses going to their respective destinations.

ALL	MODE OF TRAVEL FROM ORIGIN TO KAMLAPUR		EST TRAVEL TIME	EST. WAITING TIME AT KAMLAPUR	MODE OF TRAVEL FROM KAMLAPUR TO DESTINATION		EST TRAVEL TIME
	N	%			N	%	
Bus AC	18	4%	83	28	142	28%	112
Bus Non- AC	361	72%			350	70%	
Car	2	0%			2	0%	
Rickshaw	61	12%			2	0%	
Legunas, tempos, maxis	-	-			2	0%	
CNG	25	5%			1	0%	
Walking	1	0%			-	-	
Others	32	6%			1	0%	
TOTAL	500	100%			500	100%	

Origin-destination matrix. Around half of the passengers at Atish Diponkor Road come from areas outside Dhaka and are traveling to areas outside Dhaka. 42 percent of the respondents originating from within Dhaka, but outside Kamlapur area are taking a trip going to other parts of Dhaka. The remaining 6 percent are traveling within Kamlapur and are traveling to other parts of Dhaka or areas outside Dhaka.

	Table 17: TRIP ORIGIN AND DESTINATION															
	Buses along Atish Diponkor Road				Buses at BRTC bus depot				Buses along Outer Circular Road				ALL			
	Origin		Destination		Origin		Destination		Origin		Destination		Origin		Destination	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Within Kamlapur	9	6%	-	-	6	3%	1	1%	7	5%	4	3%	22	4%	5	1%
Outside Kamlapur, but within Dhaka	63	42%	66	44%	153	77%	33	17%	91	61%	139	93%	307	61%	238	48%
Outside Dhaka	78	52%	84	56%	41	21%	166	83%	52	35%	7	5%	171	34%	257	51%
TOTAL	150	100%	150	100%	200	100%	200	100%	150	100%	150	100%	500	100%	500	100%

Approximately 83 percent the passengers riding buses at BRTC depot come from areas outside Dhaka and are traveling to areas outside Dhaka. 42 percent of the respondents originating from within Dhaka, but outside Kamlapur area are taking a trip going to other parts of Dhaka. The remaining 6 percent are traveling within Kamlapur and are traveling to other parts of Dhaka or areas outside Dhaka.

Majority of the passengers riding local buses along outer Circular Road originate from areas outside Kamlapur, but within Dhaka (61%). Other passengers originate from outside Dhaka. Majority of them are traveling to other parts of Dhaka outside of Kamlapur.

Overall, 61 percent of the bus passengers originate from different areas of Dhaka outside Kamlapur and 34 percent originate from areas outside Dhaka. Only 4 percent are from Kamlapur. Almost half of them are traveling outside Dhaka and the other half is traveling to other parts of Dhaka outside of Kamlapur.

3. Assessment of bus services

Assessment of the bus operation: From Origin to Kamalapur. Around 61 percent of the respondents are satisfied that the buses are accessible. Only around 40 percent of the respondents consider that buses are adequate for their travel needs. More respondents (44%) are neither satisfied nor dissatisfied with the adequacy of buses for their travel needs.

ALL	Table 18: ASSESSMENT OF BUS OPERATION FROM ORIGIN TO KAMLAPUR							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Accessibility of buses	2.25	2	56	304	102	37	1	0
Adequacy of buses to the routes you go	3.18	3	15	92	204	165	24	0
Punctuality/ reliability of the bus service	3.46	4	30	55	132	219	64	0
Reasonableness travel time	3.62	4	20	86	104	147	141	2

ALL	Table 18: ASSESSMENT OF BUS OPERATION FROM ORIGIN TO KAMLAPUR							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Reasonableness of waiting time	3.41	3	44	62	150	134	107	3
Personally safety while riding the bus	3.45	4	0	100	146	183	70	1
Ease in transferring from bus to bus	3.57	4	0	82	144	182	89	3
Courtesy of drivers and bus supervisors	3.59	4	0	89	136	171	101	3
The safety and reasonableness of driving	3.29	4	33	103	132	153	76	3
Cleanliness and comfort of buses	3.44	4	6	109	127	176	82	0
Extent by which the bus operating hours meet my needs	3.68	4.00	9	45	145	204	94	3
Easy in identifying the buses to ride	3.39	4.00	9	86	160	193	51	1
Availability of information on bus route	3.68	4.00	7	63	119	205	106	0
Information on bus schedule is available	3.24	4.00	65	75	130	135	93	2
The pick-up and drop off points are safe	3.46	4.00	0	124	110	179	85	2
The waiting area is adequate	3.36	4.00	19	109	124	174	71	3
The passenger is protected from heat and rain	3.60	4.00	0	64	162	183	90	1
Reasonableness of bus fare	1.87	2.00	75	416	9	0	0	0

Half of the respondents also disagree that buses are on schedule. They cite the lack of information on routes and schedules. Around 77 percent of the respondents expressed that there is no information available that would help them determine routes and schedules. This perception is reflective of the practice on the ground wherein bus operators generally do not follow a certain time schedule and do not provide information about bus schedules and fares.

Respondents (44%) are generally dissatisfied and 13 percent are completely dissatisfied with the reliability of bus services. The hours of service generally do not meet the respondents' needs. This can be due to the long turnaround time of buses considering that the majority cater to long distance routes. Around 20 percent of passengers are completely dissatisfied and another 27 percent are dissatisfied with waiting time.

Around half of the respondents feel that they are unsafe while riding a bus while 30 percent are neither satisfied nor dissatisfied with personal safety on the bus. Around 54 percent of the passengers also expressed dissatisfaction with the relative ease in transferring from bus to bus or from bus to other modes of transport. The same number of respondents are dissatisfied with the courtesy of drivers and bus supervisors. More than half of the passengers are also dissatisfied with cleanliness and comfort of buses, ease in identifying buses, availability of information, safety of pick up and drop off points, adequacy of waiting area, and protection of passengers from heat and rain. Majority of the bus passengers, however, consider that bus fares are reasonable.

Assessment of the bus operation: From Kamalapur to Destination. Bus passengers covered by the survey are generally dissatisfied with bus operation services in Kamalapur. More than half of them expressed dissatisfaction in 8 of 18 key areas of assessment. These include adequacy of buses, reliability of bus service, reasonableness of travel time, courtesy of drivers and bus supervisors, safety and reasonableness of driving, safety of pick up and drop off points, adequacy of waiting area, and protection of passengers from heat and rain. In other

Moreover, majority of bus passengers are neither satisfied nor dissatisfied in the relative ease of transferring from bus to bus, personal safety while riding the bus, reasonableness of waiting time, cleanliness and comfort of buses, ease in identifying buses and availability of information on bus schedule.

Bus passengers have expressed satisfaction in two key areas: accessibility of buses and reasonableness of bus fares.

ALL	Table 19: ASSESSMENT OF BUS OPERATION FROM KAMLAPUR TO DESTINATION							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Accessibility of buses	2.55	2.00	34	229	167	69	1	0
Adequacy of buses to the routes you go	3.30	4.00	0	128	145	179	47	1
Punctuality/ reliability of the bus service	3.44	4.00	22	68	156	179	74	1
Reasonableness travel time	3.45	4.00	33	79	132	143	113	0
Reasonableness of waiting time	3.25	3.00	57	77	144	130	89	3
Personally safety while riding the bus	3.22	3.00	27	75	218	124	52	4
Ease in transferring from bus to bus	3.20	3.00	17	28	322	107	24	2
Courtesy of drivers and bus supervisors	3.41	4.00	0	100	143	210	46	1
The safety and reasonableness of driving	3.64	4.00	12	62	127	195	102	2
Cleanliness and comfort of buses	3.04	3.00	70	73	161	161	33	2
Extent by which the bus operating hours meet my needs	3.60	4.00	0	94	119	182	102	3
Easy in identifying the buses to ride	3.34	3.00	0	96	183	174	47	0
Availability of information on bus route	3.49	4.00	8	97	125	184	84	2
Information on bus schedule is available	3.41	4.00	6	118	123	172	81	0
The pick-up and drop off points are safe	3.12	4.00	37	141	101	173	44	4
The waiting area is adequate	3.46	4.00	0	120	126	159	95	0
The passenger is protected from heat and rain	3.50	4.00	2	72	167	194	61	4
Reasonableness of bus fare	1.88	2.00	74	416	8	2	0	0

4. Priority improvements

Respondents were asked to provide top three important aspects bus operations need to improve on for services. Majority of the respondents identified these top priority improvements:

Priority 1: make travel time reasonable

Priority 2: provide information on routes and ensure safe driving

Priority 3: provide adequate pick up and drop off points

The results show the need to upgrade the level of service of bus transportation services particularly in the reliability (e.g. timely departure and arrival).

5. Awareness of MRT project

Only 83 percent of the bus passengers interviewed know about the MRT project. Around 95 percent consider the MRT as personally beneficial. Majority of them think that the MRT will reduce travel time (83%). Around 12 percent consider that the MRT will make travel reliable.

	Table 20: PERSONAL BENEFITS OF MRT PROJECT							
	Buses along Atish Diponkor Road		Inter-district buses at BRTC bus depot		Local buses along Outer Circular Road		ALL	
	N	%	N	%	N	%	N	%
MRT will reduce travel time	122	83%	140	75%	129	93%	391	83%
MRT will make travel reliable	20	14%	31	17%	6	4%	57	12%
MRT will reduce travel costs	4	3%	8	4%	2	1%	14	3%
MRT will make travel convenient	1	1%	6	3%	-	-	7	1%
MRT will make travel safe	-	-	2	1%	-	-	2	0%
MRT will make travel comfortable	-	-	-	-	2	1%	2	0%
MRT will make travel convenient	-	-	-	-	-	-	-	-
MRT will promote health and wellness	-	-	-	-	-	-	-	-
	147	100%	187	100%	139	100%	473	100%

All of the bus passengers expressed that the MRT project will be beneficial to Dhaka and the entire country primarily by facilitating employment (98%) of responses.

	Table 21: SOCIETAL BENEFITS OF MRT PROJECT							
	Buses along Atish Diponkor Road		Inter-district buses at BRTC bus depot		Local buses along Outer Circular Road		ALL	
	N	%	N	%	N	%	N	%
MRT will facilitate employment	120	81%	199	100%	144	96%	492	98%
MRT will help address road decongestion/ traffic in Dhaka	24	16%	-	-	-	-	-	-
MRT will reduce travel time and costs	2	1%	1	1%	6	4%	8	2%
MRT will reduce air pollution	-	-	-	-	-	-	-	-
MRT will facilitate economic growth especially in areas	-	-	-	-	-	-	-	-
Others	3	2%	-	-	-	-	-	-
TOTAL	149	100%	200	100%	150	100%	500	100%

ANNEX 5: RAIL PASSENGER SURVEY

A survey was conducted on December 10-18, 2017 to characterize the rail passengers in Kamalapur area. A total of 500 passengers were interviewed.

1. Socio-demographic characteristics

Age. The average age of rail passengers is 32 years old. Around 70 percent of the rail passenger respondents have ages between 21-40 years old.

	Table 1: AGE OF TRAVELER	
	N	%
20 years old or younger	50	10%
21-30 years old	210	42%
31-40 years old	142	28%
41-50 years old	62	12%
51-60 years old	24	5%
61 years old and above	12	2%
TOTAL	500	100%
Average	32	

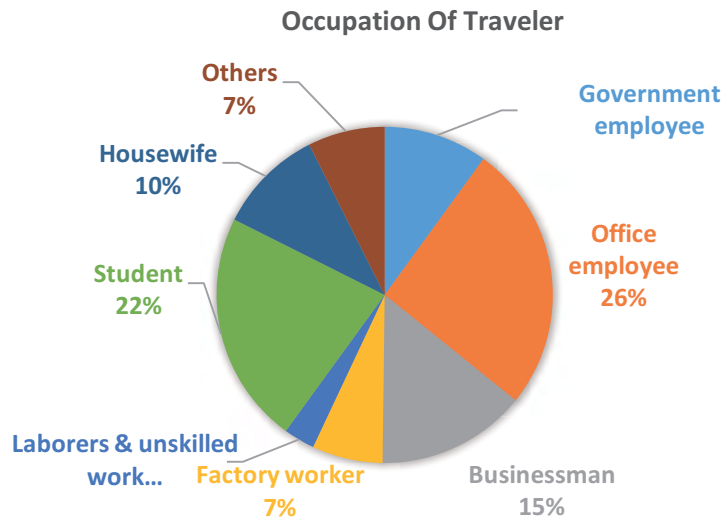
Gender. Majority of the passengers are male accounting for 81 percent of the total number of respondents.

	Table 2: GENDER OF TRAVELER	
	N	%
Male	404	81%
Female	96	19%
TOTAL	500	100%

Residence. Majority of the rail passengers are from areas outside Kamalapur, but within Dhaka city. They account for 60 percent of the total respondents. Rail passengers residing outside Dhaka city comprises 37 percent of the total number of respondents. Those residing in Kamalapur area comprise three (3) percent.

	Table 3: RESIDENCE OF TRAVELER	
	N	%
Within Kamalapur	13	3%
Outside Kamalapur but within Dhaka	301	60%
Outside Dhaka	186	37%
TOTAL	500	100%

Occupation of traveler. The survey shows that rail passengers have different occupations. Around 26 percent are office employees. Students comprise 23 percent while businessmen account for 14 percent of the total number of respondents. The rest of the passengers work in government and factories, among others. A tenth of the sample are housewives.

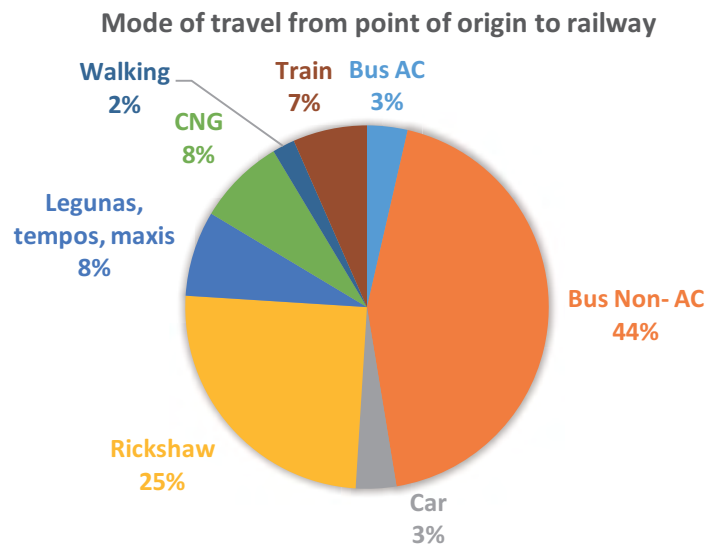


2. Travel pattern

Trip origin and destination. Majority of the rail passengers interviewed come from areas within Dhaka, but outside Kamalapur. They comprise 73 percent of the respondents. Rail passengers residing outside of Dhaka account for 23 percent. Almost all of them are traveling outside of Dhaka.

	Table 4: TRIP ORIGIN AND DESTINATION			
	Origin		Destination	
	N	%	N	%
Within Kamalapur	20	4%	-	-
Motijheel/Dilkusha	4	1%	3	1%
Outside Dhaka	113	23%	479	96%
Within Dhaka	363	73%	18	4%
TOTAL	500	100%	500	100%

Majority of the rail passengers use non- air-conditioned buses from point of origin to Kamalapur station (44%). Around 25 percent use rickshaws while 16 percent use CNG, legunas, tempos, or maxis. Only 2 percent of the rail passenger walk to the rail station.



Frequency of travel. Majority of the rail passengers travel once a month (59%).

	Table 5: FREQUENCY OF TRAVEL	
	N	%
Everyday	7	1%
Every day except weekends	6	1%
2-3 times a week	3	1%
Once a week	64	13%
Once a month	296	59%
1-3 times a year	83	17%
Every 2 months	25	5%
Every 3 months	16	3%
	500	100%

Fare. The average fare is BDT 306 per trip.

3. Assessment of rail services

Rail passengers interviewed are generally dissatisfied with their overall rail travel experience. Majority express that they are dissatisfied with (a) personal safety while on board, (b) length of time the journey was scheduled to take, (c) comfort of the seating area, (d) frequency of trains, (e) capacity of rail cars, (f) reliability of trains, (g) reasonableness of waiting time, and (h) cleanliness and comfort of rail cars. They express satisfaction in services in only two areas: availability of route information and schedule. Fare is considered fair.

	Table 6: ASSESSMENT OF RAIL TRAVEL							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Personal security/safety while onboard	3.1	2	0	188	99	171	36	6
Length of time the journey was scheduled to take	3.4	4	0	116	118	206	54	6
Comfort of the seating area	3.3	4	0	150	125	174	42	9
Frequency of the trains	3.4	4	0	133	98	206	55	7
Sufficient capacity of passengers in rail cars	3.7	4	0	70	109	236	71	14
Reliability/punctuality of trains (departing/arriving)	3.7	4	0	69	108	235	75	13
Reasonableness of waiting time	3.6	4	1	98	103	208	74	16
Cleanliness and comfort of rail cars	3.7	4	4	84	105	196	85	26
Extent by which the bus operating hours meet needs	3.5	4	0	131	132	142	71	24
Information on route is available	3.0	2	1	259	78	89	47	26
Information on schedule is available	2.9	2	2	311	40	70	51	26
The fare is reasonable	2.0	2	76	370	49	2	3	0

In terms of improvement in rail operation, rail passengers consider the following:

- First priority: improve comfort of seating area, improve personal safety, make travel time reasonable, and increase frequency of trains.
- Second priority: increase capacity of rail cars, improve reliability/punctuality of trains, and improve comfort of seating area.
- Third priority: Improve cleanliness and comfort of rail cars.

Table 7: POSSIBLE IMPROVEMENT IN RAIL OPERATION						
	FIRST PRIORITY		SECOND PRIORITY		THIRD PRIORITY	
	N	%	N	%	N	%
Improve personal security/safety while onboard	87	17%	14	3%	8	2%
Reduce length of time the journey was scheduled to take/ make travel time reasonable	86	17%	30	6%	14	3%
Improve comfort of seating area	111	22%	61	12%	17	3%
Increase frequency of trains	79	16%	49	10%	17	3%
Increase capacity of rail cars	68	14%	134	27%	60	12%
Improve reliability/punctuality of trains	17	3%	83	17%	49	10%
Make waiting time reasonable	7	1%	45	9%	53	11%
Improve cleanliness and comfort of rail cars	17	3%	44	9%	130	26%
Provide information on routes	6	1%	21	4%	61	12%
Provide information on schedule	18	4%	15	3%	69	14%
Make fare reasonable	4	1%	4	1%	22	4%
Others,	0	0%	0	0%	0	0%
	500	100%	500	100%	500	100%

Rail passengers have expressed satisfaction in the following areas of rail station services: (a) adequacy of information on route and schedule, (b) adequacy in connections with other modes of public transport, and (c) ease in transferring from/to other modes of transport.

However, they express dissatisfaction in the services and amenities provided by the Kamalapur railway station. In particular, they express dissatisfaction in: (a) ease in buying tickets, (b) personal security at the station, (c) safety of women and children, (d) safety of the surrounding area of the rail station, (e) adequacy of wash rooms and comfort rooms for female passengers, (f) cleanliness of the station, and (g) provision of feedback or complaints mechanism. Rail passengers are neither satisfied nor dissatisfied in the adequacy of lighting of rail station at night and adequacy of security personnel at the station.

	Table 8: ASSESSMENT OF RAIL STATION							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Ease in buying tickets	3.6	4.0	-	121	71	218	90	-
Adequacy in information about schedule	3.0	2.0	-	209	122	134	33	2

	Table 8: ASSESSMENT OF RAIL STATION							
	Average	Mode	Very Satisfied	Satisfied	Neither	Dissatisfied	Completely Dissatisfied	I do not know
Adequacy in information about platforms	3.1	2.0	-	210	93	149	43	5
Personal security/safety in the rail station	3.4	4.0	-	132	129	166	67	6
Safety of women and children	3.6	4.0	-	97	101	218	75	9
Safety of the surrounding area of the rail station	3.6	4.0	-	93	125	186	77	19
Adequacy of wash rooms	4.0	4.0	-	39	75	244	132	10
Adequacy of wash rooms for female	4.0	4.0	-	52	77	208	144	19
Cleanliness and maintenance of rail station	3.6	4.0	-	107	96	196	91	10
Adequacy of lighting at night at the rail station	3.3	2.0	-	161	144	120	54	21
Adequacy of security personnel presence at the terminal (e.g. security guard, police)	3.3	3.0	-	144	158	134	50	14
Provision of feedback or complaints about the services	3.4	2.0	-	150	117	131	75	27
Adequacy in connections with other modes of public transport	2.9	2.0	1	240	126	80	40	13
Ease in transferring from rail to other modes of transport	3.6	2.0	2	268	107	62	48	13

Rail passengers consider the following improvements:

- First priority: make buying of tickets easy.
- Second priority: provide adequate washrooms, improve security at the rail station.
- Third priority: provide adequate washrooms for both male and female.
-

Table 10: SUGGESTED IMPROVEMENTS						
	FIRST PRIORITY		SECOND PRIORITY		THIRD PRIORITY	
	N	%	N	%	N	%
Make buying tickets easy	243	49%	31	6%	18	4%
Provide adequate information about schedule	53	11%	34	7%	11	2%
Provide adequate information about platform	46	9%	27	5%	12	2%
Improve security/safety in the rail station	55	11%	87	17%	13	3%
Improve safety of women and children in the rail station	28	6%	62	12%	22	4%
Improve safety of the surrounding area of the rail station	18	4%	64	13%	23	5%
Provide adequate wash rooms	30	6%	106	21%	90	18%
Provide adequate wash rooms for female	9	2%	44	9%	94	19%

Table 10: SUGGESTED IMPROVEMENTS						
	FIRST PRIORITY		SECOND PRIORITY		THIRD PRIORITY	
	N	%	N	%	N	%
Improve cleanliness and maintenance of rail station	5	1%	15	3%	76	15%
Provide adequate lighting at night at the rail station	1	0%	18	4%	47	9%
Provide adequate security personnel	1	0%	3	1%	21	4%
Provide mechanism for feedback or complaints about the services	10	2%	4	1%	32	6%
Improve connections with other modes of public transport	-	-	4	1%	23	5%
Improve ease of transferring from rail to other modes of transport	1	0%	1	0%	17	3%
Others	-	-	-	-	1	0%
	500	100%	500	100%	500	100%

4. Awareness about MRT

Around 89 percent of the rail passengers interviewed have heard about the MRT project. 98 percent of the household respondents consider the MRT project as personally beneficial. Majority of rail passengers think that the MRT will primarily reduce travel time. Majority of the rail passengers consider the MRT project as beneficial to Dhaka and the country. They expressed that the MRT will primarily facilitate employment, address road congestion in Dhaka, and will reduce travel time and costs. Other secondary reasons include facilitating economic growth in surrounding areas as well as of Dhaka in general.

Appendix D : Urban Railway Development and TOD in Case Study Cities

1 URBAN RAILWAY DEVELOPMENT AND TOD IN CASE STUDY CITIES

1.1 Metro Manila, Philippines

1) Profile of Metro Manila

1.1 Metro Manila is composed of 17 municipalities and governed by the Metropolitan Manila Development Authority (MMDA) in the coordination of metropolitan-wide projects. Metro Manila has an area of 620 km² and a population of around 12 million (2010). Its population continues to grow, and suburbanization in adjoining areas has progressed. The urbanized metropolitan area includes adjoining municipalities and has about a population of 22 million, which is forecast to reach 30 million in 2030 (see Figure 4.1 and Figure 4.2).

1.2 Continuous population growth and a widening income gap have created a large informal sector, inducing overcrowding in existing urban areas and sprawl. More than 1 million households in slums and squatters are scattered through Metro Manila, occupying public land and hazardous areas. Meanwhile, middle-income groups who reside in suburban areas have to ensure long commuting times due to traffic congestion. The urban area has been expanding even into hilly areas and undevelopable areas. Because of BOP (bottom of the pyramid) business and OFW (overseas foreign workers) remittances, the country's economic growth has successfully continued, and urban development projects are also active. Without efficient urban planning, skyscrapers have been constructed, and the population density has become quite high (220 persons per ha). The impact of urbanization is significant, and the expansion of Metro Manila creates a lot of urban issues which have never been seen elsewhere in the world.

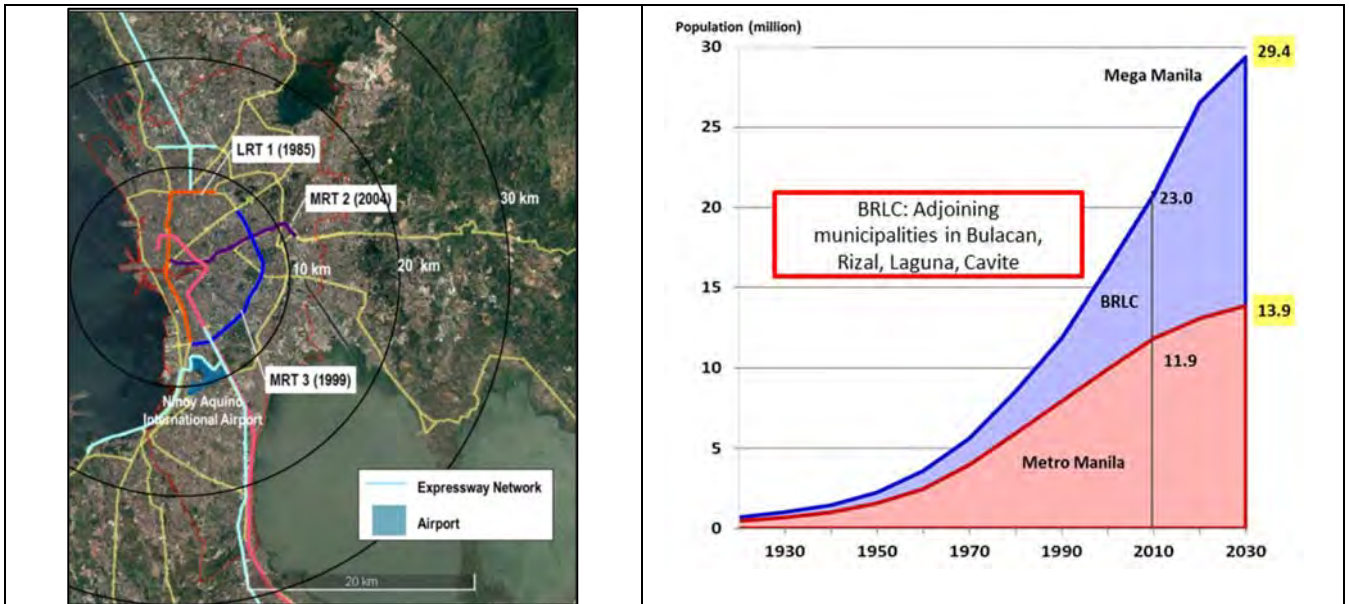


Figure 1.1 Map of Metro Manila

Source: Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A)

Figure 1.2 Population Growth of Metro Manila / Mega Manila

2) Urban Transport and Urban Railway Development

1.3 The traffic condition in Metro Manila is getting even more serious, and congestion is evident not only during peak hours, but all throughout the day. The economic loss caused by traffic congestion is estimated at PHP2.4 billion per day.

1.4 The Manila LRT Line 1, which opened in 1985 (15 km of elevated light rail) is the first metro system in Southeast Asia. The MRT Line 3 (elevated light rail) and LRT Line 2 (elevated mass rapid transit) opened in 1999 and 2003, respectively.¹ The three routes/lines have their own fare systems and encountered a lot of problems during construction and operation. The daily ridership is 0.5 million for Line 1, 0.2 million for Line 2, and 0.5 million for Line 3. Overcrowding in the cars, on the platforms, and at ticket gates has become a serious matter.

1.5 The problems of urban railway in Metro Manila are the following: (i) closed network cannot meet urbanization; (ii) demand–supply gap; (iii) lacks connectivity to transit network; (iv) fare setting; (v) station plaza / feeder service; (vi) accidents and machine troubles due to low operating efficiency, overloading, and poor technical capability; and (vii) increasing subsidies. In addition, the difference in PPP schemes used in building the lines acts as a bottleneck in the development of urban railway as an urban transit network.

3) Plan

1.6 Traffic congestion in Metro Manila is considered as a national problem, to whose end a lot of projects have been planned and implemented. Among these projects, the most remarkable are the North-South Commuter Railway (elevated suburban railway utilizing PNR land) and the North-South Subway. These projects can reorient the current structure from radial and circular to grid and enhance the development of subcenters in suburban areas. Japanese loan is planned to be applied for both projects.

4) Station Area Development / Railway Catchment Area Development

1.7 Urban railway in Metro Manila was developed in a dense urban area and the provision of intermodal facilities was delayed and station area development was never considered. Some large shopping centers provide pedestrian decks connecting to the stations, but access from/to bus and jeepney is on the existing road for most of the stations.

5) Lessons from Metro Manila's Experience

1.8 The development of the urban railway in Metro Manila has been faster than in other Southeast Asian countries and has met a lot of problems along the way. Metro Manila's experience can provide lessons for other developing countries, as follows:

- (a) **Transit Network Development vis-à-vis City Growth and Urban Area Expansion:**
The urban railway network plan was prepared but the development was delayed while urbanization has rapidly progressed. As a result, the network plan didn't meet the urban

¹ MRT Line 3 introduced a light rail system. On the other hand, LRT line 2 introduced a mass transit rail system

size. Long-term planning of urban development project is required to solve demand–supply gaps and connectivity / extensibility of the transit network.

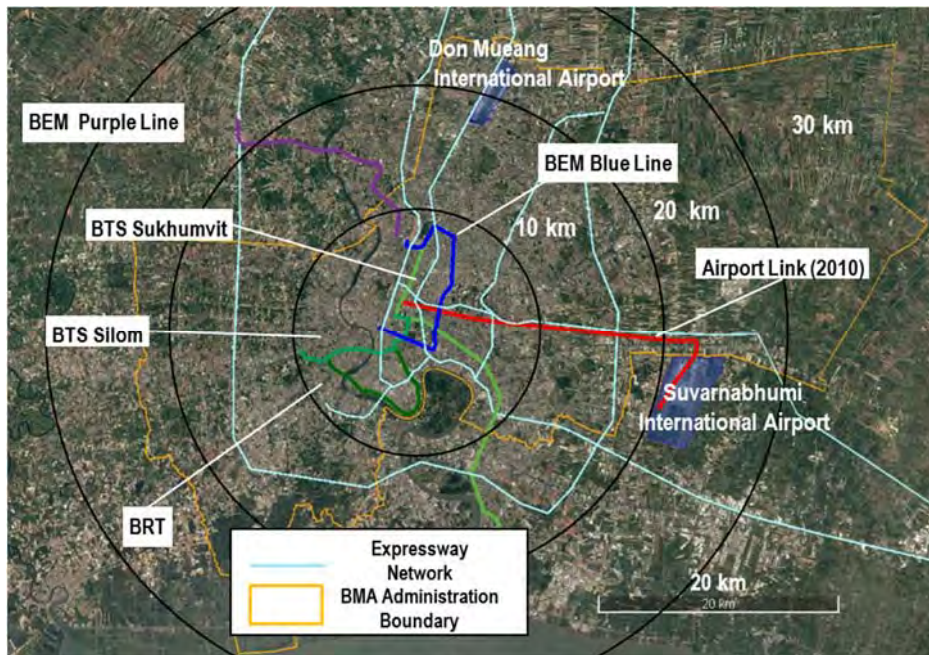
- (b) **Demand Analysis and Mode Selection:** Megacities in developing countries have shown long-term urbanization (population concentration / suburbanization) exceeding the target years of master plans. In urban railway planning, demand analysis, mode selection, design of platform / station facilities, and further expansion projects should be considered.
- (c) **Provision of Intermodal Facilities:** A lack of intermodal facilities impacts not only the railway users, but also road users. The minimum scale of necessary intermodal facilities should be implemented as part of railway projects.
- (d) **Fare Setting on Urban Railway:** The fare on urban railway in Metro Manila is the same as that on other road-based public modes. As traffic congestion is serious, urban railway service is packed more than its capacity, causing machine troubles and accidents. Fares that match the high level of service is important also for the financial viability of an urban railway project.
- (e) **Capacity Development of Stakeholders:** The capacity of government is very poor, railway projects are not appropriately planned, and implementation is frequently delayed.

1.2 Bangkok Metropolitan Area, Thailand

1) Profile of Bangkok

1.9 Bangkok has an area of 1,569 km² and a population of 8.3 million. But the population in the metropolitan area is about 15 million, which is much more than the second-largest city. The primacy of Bangkok is quite high. Active foreign direct investment and globalization enhance the importance of Bangkok and such concentration in the city is assumed to continue. One of the problems of the spatial structure of Bangkok is its unique road network. The road-to-area ratio is 8.5% in the urban area and 2.5% in the suburban area. In other cities, road provision is lower. Large urban blocks surrounded by major roads are not provided with adequate secondary and distributor roads. Traffic flow is not appropriately distributed and is concentrated in a few arterial roads, causing severe traffic congestion.

1.10 Land-use control is extremely troubling, and mixed-use development is ongoing. High-rise development in the urban area and sprawl in the suburban are progressing. Such inefficient and rapid urban development makes infrastructure development even more difficult and induces various urban problems including traffic congestion.



Source: Worked out by the Study Team based on Google Earth.

Figure 1.3 Map of Bangkok Metropolitan Area

2) Urban Transport and Urban Railway Development

1.11 Like Metro Manila, urban planning is given less consideration by Bangkok authorities and therefore is not effective. On the other hand, aggressive real estate development has made Bangkok into one of the most congested cities in the world. Motorization has progressed rapidly, causing traffic problems to become more serious. However, the urban expressway was developed actively as a countermeasure to traffic problems. Eight sections of the urban expressway network with a total route length of 208 km have greatly improved the traffic condition. The urban expressway network is planned to be expanded further to reach 330 km.

1.12 The existing railway in Bangkok was once utilized for urban transport, but the impact was very limited and the share of the existing railway is less than 1% of the total urban traffic demand. In 1999, the first urban railway route was opened by BTS, a private company. In 1992, the Mass Rapid Transit Authority (MRTA) was established and worked on the development of the Blue Line. This line was planned to be an elevated railway but was later modified to be a subway with the phase 1 section opening in 2004. The Airport Link and Purple Line were opened in 2010 and 2016, respectively. In the meantime, BRT was opened in 2010. Additionally, the Red Line between Bang Sue Junction (SRT) and the northern suburbs is being planned.

3) Plan

1.13 The development of urban railway in Bangkok has been rapid. The various urban railway routes have been planned and constructed, and the development of the planned 10 routes with 464 km of urban railway network is assumed to be progressing rapidly. It is remarkable that the network intends to expand into the suburbs.

4) Station Area Development / Railway Catchment Area Development

1.14 Based on related documents, the characteristics of station area development are as follows:

- (i) In the city center, pedestrian decks have been widely developed, easing the overconcentration of passengers in stations. Some stations are connected to hotels and commercial facilities.
- (ii) The development of medium-/high-rise residential buildings around urban railway routes has progressed. The main target is the middle-income group who hails from suburban areas and in other urban areas. As a result, it has contributed in the mitigation of urban sprawl and has impacted people's lifestyles, i.e., the commuting distance is shorter and car ownership is reduced.

1.15 In December 2015, the development of the Orange Line (39.6-km route with 30 stations between Taling Chan in the west and Minburi in the east) was approved. Real estate development around the route has increased, suggesting that urban railway development stimulates real estate development.

5) Lessons from Bangkok's Experience

1.16 Bangkok's experience in urban railway development give the following lessons:

- (a) **Development as Urban Railway Network:** Like Manila, the first urban railway route in the city was implemented by the private sector. Due to budget constraints, the capacity of the railway was quite lower than the demand. The urban railway network has extended into the hinterland in the adjoining provinces, but connectivity along the routes is poor.
- (b) **Role sharing between Urban Expressway, Urban Railway and Road Transport:** Unlike Metro Manila, the fares on Bangkok's urban railway is twice those of the bus. The service level is also higher, and it attracts the middle-income group. As a result, the role sharing between urban expressways (mainly for logistics and business trips), urban railway (mainly for commuting and school trips), and road transport (feeder) is established.
- (c) **Merger between BECL (Bangkok Expressway Company Limited) and BMCL (Bangkok Metro Company Limited):** In December 2015, the two transport infrastructure companies were consolidated as BEM (Bangkok Expressway and Metro). BMCL experienced losses every year, but BECL showed good performance. The merger is expected to enhance the competitiveness of urban railway development.
- (d) **Strategy of BTS:** BTS has shown a healthy increase in ridership and is planning to extend and expand its routes. At the same time, BTS has a presence in real estate together with large private developers. A joint company with a 50:50 investment ratio was established and the development of condominium buildings within 500 m from subway stations has progressed. Its advertisement business has also developed through an unconsolidated subsidiary. In the service sector, its hotel business and e-money business are also financially viable.

2 EXPERIENCE OF CITIES IN JAPAN AND OTHER DEVELOPED COUNTRIES: LESSONS FOR DEVELOPING COUNTRIES

2.1 Japanese Experiences of Development Around Stations and Along Railway Lines

1) History of integrating urban railways and development projects in Japan

2.1 Among major cities of the world, railways have great influence on urban formation and movements inside the city depend on mainly public transportation. Tokyo metropolitan area is maintaining a giant, high density and convenient city with various public transportations like movement of people is railway and that of cargo is automobile. There are many types of development cases in Tokyo that formed a metropolitan area with public transportations and the experiences in Japan is effective for developing countries to understand TOD which is integrating urban railways and development projects. The characteristics of history of that in Japan are as follows.

- (a) **Railway was the only public transportation in the era without cars:** Tokyo was thought to exceed 1 million people in the early 18th century, and in 1872, which was already the largest population size in Asia (Meiji 5 Year), the railway history began with the opening of the railroad to Shimbashi – Yokohama. It was regarded as the only transportation in times when there was no car, and as a profitable business. Therefore, many railway companies were established throughout the country and most of main railway network was completed by the end of the Meiji era.
- (b) **Although the railway in Japan developed as a private business and majority of the business was acquired and nationalized, a lot of private railway was left in big cities:** In 1904 the Kobe railway was electrified and the convenience was improved, urbanization had progressed due to population increase along railway areas. In the Hanshin Express Railway led by Ichizo Kobayashi, president of Hanshin Express Railway at that time, it had created a model of railway management in Japan, such as carrying out development along railway, construction railway and department store as side jobs simultaneously. In order to attract passengers, there were many cases of development of residential areas and building attraction facilities such as amusement parks. Hankyu Umeda station in 1920 was the first to have a department store at the terminal station, after that department stores were set up one after another at each private railway terminal.
- (c) **Formulation of a long-term plan at the Imperial reconstruction plan of the Kanto Great Earthquake:** Although Tokyo, which was devastated by the Great Kanto Earthquake, could not carry out land readjustment projects for the burning area of 3,630 ha due to the earthquake, there was a plan to construct a main road network and subway under the road in Ikebukuro, Shinjuku, Shibuya, Meguro which were becoming emerging terminals to the city centre.
- (d) **Rapid population growth of large cities and integrated development of urban development and urban railways in the period of high economic growth:** In the period of high economic growth from 1955 to 1973 that shows annual growth of more than 10%, population concentration had progressed and it caused urban problems such as urban sprawl, deterioration of living environment due to insufficient urban infrastructure which developing countries have currently. (Tama rural urban development began in this era.) To cope with these problems especially urban sprawl,

in 1968 the New City Planning Act established the area (urbanization promotion areas) where urbanization should be preferentially and systematically planned within 10 years. Together with this act to control urban sprawl, the New Housing and Urban Development Act (1963) came into effect as a large-scale urban development law for planned guidance of residential areas, and the government started a large-scale new town development (Tama New Town).

2.2 In parallel with the development of large-scale new towns, middle-size housing development have also increased due to opening of new stations at intermediate stations of existing stations. In this case, the installation cost of the intermediate station is set as a burden on the developer in principle, and it is covered by the developers around the new station and the municipalities in the area expected to improve the transportation convenience. This method is called "New station installation by a burden of developers (Requested Station)." (Koshigaya Lake Town)

2.3 The above-mentioned large-scale new town development has a population size of 200,000 to 300,000, including the development of areas exceeding the walking area of the railway station. For this reason, feeder bus routes are maintained by railway companies and regional bus companies as transport facilities from residential areas in development areas to stations.

2) Features of integral development with urban railway

- (a) **Base Development as an Urban Function Enhancement:** Entering into a stable growth period which continued slumping economy after a period of high economic growth, strengthening urban power became a major issue, and new large-scale development such as coastal development was promoted. In addition, construction of railways as access traffic was integrally carried out. (Rinkai subcenter development, MM 21 development). Utilizing stations with high transportation convenience and large sites, development of bases of idle areas (railway depo etc.) of many stations were carried out as a new urban base development project (cases of developing idle land, such as railway depo, Shiodome district, Sky tree, Shinagawa Station etc.). As for redevelopment projects and establishment of a new station, there are many examples of redevelopment project (Toranomom Hills) at the same time of a new line of a subway.
- (b) **Redevelopment of base transportation terminal:** Main terminals in the centre of cities has increased quality about base and hub by increasing the number of station users. However, through 70 to 80 years after construction of facility around stations, redevelopment projects have been proceeding for an intensive use of land due to increase the number of long-distance bus lines, aging of the bus terminal. (Redevelopment projects around Shibuya Station, redevelopment project of Abe no Harukusu, development project at Shinjyuku Bus Terminal).
- (c) **In the declining trend of railway users, business development to get profits from new business:** As a characteristic of the Japanese railway, many railway companies are engaged in a wide range of businesses. Many companies get profits from non-railway business and it account for the majority of railway company sales. These efforts have also been a railroad company's efforts to provide railway users with diverse living services by making full use of the role of the station's local transport centre.

3) Type of Eki-naka (shops inside station buildings), development around station and along railway

2.4 In Japan, stations are developed for users of railway stations with large scale development which includes stations, area around stations and station square plaza. Examples of development integrated station and large-scale development can be categorized as Eki-naka, station square plaza and development along railway (existing urban area, railway idle area, new developed area, middle station development of suburban existing railway). There are many cases in Japan, but representative examples considered to be useful for developing countries to develop along the railway. Representative cases are shown in Table 6.1.

Table 2.1 Type of Development Around Station and Along Railway Lines

Type	Case Station	Contents	
Eki-naka and development around station	Eki-naka	Shakujii Park	Inside station buildings/Under viaduct
		Preservation/Restoration of Red Brick Station Building at Tokyo Station	Use FAR transfer
	Intensive land use of railway	Abeno Harukasu	Aging station/Intensive use of station sites
		National Highway No. 20 and Shinjuku Station South Exit Bus Terminal	Project combined with road improvement project
	Station square plaza	Station Square Plaza of Shinjyuku /Ikebukuro Station	Excessive expropriation/Private funds
	Redevelopment project around station	Redevelopment Project in Shibuya and around Shibuya Station	Remodeling of the station due to direct service of subway
Redevelopment project of existing urban area	Toranomon Hills	Large-scale redevelopment project and construction of new station	
Development along railway	Utilizing factory site	Ebisu Garden Place	Land use conversion and redevelopment project
	Utilizing railway idle site	Sky Tree / Shiodome / Saitama Shintoshin / Shinagawa	Redevelopment project at railway idle site
	Requested station	Koshigaya Lake Town	New station and development of residential area
		Honjo Waseda Station	New station and opening a university
	Large-scale urban development project	Denen-Toshi Line/Tama Newtown/ Kitachiba Newtown	New town development and access railway
		Yukarigaoka/ Hankyu Railway Line	Pioneering business by the private sector
		Tukuba Express	Improving congestion and access to research academic city
Development of new business	Minato-Mirai 21 / Rinkai Subcenter Line	Large-scale development and access railway	

Source: JICA Study Team

4) Station Square Plaza

2.5 The most important thing about development around station and along railway is a traffic hub. Unless this function is secured, the original functions of the railway are greatly impaired. Construction of the railway has been proceeded with ambiguity as to who will be responsible for this function in railway development in developing countries. In the case of Japan, regarding the station square plaza, there has been an agreement about the division between railway side and city side since the war damaged reconstruction project, and it is necessary to understand Japanese TOD case based on these circumstances. The main points are as follows.

- (i) With regard to developing a station square plaza, it was decided that a policy to improve streets and railways site as a unitary facility was issued in 1946 at the war damaged reconstruction project, the site and expenses would be split between city side and railway side. Since then, although the burden ratio has been changed until now, this policy has not changed. In other words, it was considered as a principle that urban development departments or road manage departments would develop them.
- (ii) With regard to size of station square plaza, in 1953, the station square plaza research committee decided a formula for calculating size of the station square plaza as a function of passengers. In 1972, a new agreement about a development policy of station square plaza between the Ministry of Construction and the Japan National Railways (national treaty) was formulated and the burden rate on the urban side was changed from 1/2 to 3/4. Regarding the calculation of a station square plaza, a more rational method was presented to build up the area for each plan element.
- (iii) Station square plazas were relatively developed at old stations as there was a system concerning the burden of railway side and urban side. However, after the privatization of the Japan National Railways, it has become a burden on the urban side and is being developed as a city facility.
- (iv) In front of a station with a potential of development as a local base station, there are many cases of integrated station square plaza and redevelopment projects at facing the station square plaza. At suburban stations, there are many examples of developing only station square plaza includes bus stops and taxi pools. However, in the project to develop both railway and large-scale development, it is planned to develop the station front area from the beginning, and proceed as integrated development plan to meet population in the future.

2.6 In this way, in the cities of Japan the development of the station square plaza was taken for granted under the sharing ratio by the railway side and the city side. Among them, cases which the station square plaza was developed as a city plan are examples of Shinjuku Nishiguchi Square before the war, development of the station square plaza of Ikebukuro station at the war damaged reconstruction project, and so on.

5) Eki-naka and Development Around Station

2.7 Eki-naka and development around station have been used for a long time at private railway terminal stations for the purpose of securing non-railway income as well as promoting the use of railway users such as campus stores, department stores, movie theaters. Features of Japanese railway business model are as follows.

- (i) Commercial development at Eki-naka and around station (including offices and residences), and non-railway business such as urban development in the station area are the main pillars of management. The time of the former Japan National Railways, it was implemented as a user service such as kiosks and soba shops, but recently the Eki-naka development got a lot of attention, as a countermeasure to the decline of users due to aging. It was aimed at seeking a source of income and the beginning of the renovation of the Ueno station shopping zone as "Station Renaissance" of JR East in 2002 is the first step of the renovation.

- (ii) From the viewpoint of user service of Eki-naka, many railway companies try to invite attractive shops to compete with commercial facilities outside station, and the business is expanded as attractive shopping zone at many terminal stations. This trend is particularly noticeable in private railway companies, but sales of non-railroad business are also about 20% to 30% of total sales of JR east, west and central as well as around 10% in Tokyo Metro which is a pure urban railway company. It turns out that non-rail business is an important source of profits. These are not carried out completely independently from the management, but they are strategically implemented aiming at a synergistic effect.
- (iii) Generally, in each non-railway business, it can be said that the existence of railway gathers passengers at the station and is generating demand for these non-railway businesses, and the synergistic effect make company's management possible.

Table 2.2 Case examples of development around station and along railway in Japan

	Development project around Shakujii park Station	Preservation/Restoration of Red Brick Station Building at Tokyo Station	Abeno Harukasu
Objective	<ul style="list-style-type: none"> Town planning around station and train viaduct project 	<ul style="list-style-type: none"> Preservation/Restoration of Red Brick Station Building at Tokyo Station 	<ul style="list-style-type: none"> Rebuilding due to depreciation of department store
Business Entity	<ul style="list-style-type: none"> Seibu Properties Administration, town planning council 	<ul style="list-style-type: none"> JR East 	<ul style="list-style-type: none"> Kintetsu railway Co., Ltd.
Business scale (Area, number of units, business etc.)	<ul style="list-style-type: none"> 5,100 m² Transportation Square and residential living service facilities under the viaduct 	<ul style="list-style-type: none"> Application of exceptional FAR (Floor Area Ratio) of site area (116.7 ha) 	<ul style="list-style-type: none"> Site area 28,700 m² Total project cost JPY130 billion
Special Revenue Source	<ul style="list-style-type: none"> n.a. 	<ul style="list-style-type: none"> Selling surplus FAR 	<ul style="list-style-type: none"> Financial support through designation of urban regeneration special district
Project Period	<ul style="list-style-type: none"> First phase in 2012 Currently under implementation 	<ul style="list-style-type: none"> Concept Plan in 1998 Partial Opening in 2012 	<ul style="list-style-type: none"> Started construction in January 2010 Opening in March 2014
Site	<ul style="list-style-type: none"> Using site under viaduct 	<ul style="list-style-type: none"> No need 	<ul style="list-style-type: none"> Rebuilding department store
Development Profits	<ul style="list-style-type: none"> Revenue from real estate related business 	<ul style="list-style-type: none"> Selling surplus FAR to developer and secured project cost 	<ul style="list-style-type: none"> Revenue from real estate related business
Lesson	<ul style="list-style-type: none"> It is possible to avoid the land risk by using under viaduct. 	<ul style="list-style-type: none"> Securing the project cost by selling FAR at the upper part of the station 	<ul style="list-style-type: none"> Land risk can be avoided due to rebuilding of department stores. Implementation of area management and plan formulation due to participation of local community.
	National Highway No. 20 and Shinjuku Station South Exit Bus Terminal	Redevelopment Project in Shibuya and around Shibuya Station	Toranomon Hills
Objective	<ul style="list-style-type: none"> Extension of national highway and development of bus terminal 	<ul style="list-style-type: none"> Urban regeneration model in urgent urban renewal area 	<ul style="list-style-type: none"> Ring road No.2 and redevelopment project
Business Entity	<ul style="list-style-type: none"> Tokyo National Highway Office and JR East 	<ul style="list-style-type: none"> Tokyu Corporation, JR East, Tokyo Metro, Urban Renaissance Agency 	<ul style="list-style-type: none"> Ring road No.2: Tokyo Metropolitan Government Bureau of Urban Development Land acquisition: Urban Renaissance Agency Building: Specific builder
Business scale (Area, number of units, business etc.)	<ul style="list-style-type: none"> Artificial ground (1.47 ha) for bus terminal 	<ul style="list-style-type: none"> Urgent urban renewal area (139 ha) Land re-adjustment project at Shibuya station area (5.5 ha) Shibuya station south area:7100 m² Dougenzaka 1-chome area:3,330 m² 	<ul style="list-style-type: none"> Shimbashi -Toranomon district urban redevelopment project: 8.0 ha Land acquisition: 5.0 ha

		<ul style="list-style-type: none"> • Sakuragaoka-kuchi area : 17,000 m² • Shibuya Miyashita-cho Plan:5,020 m² • Nanpeodai-cho:4,128 m² 	
Special Revenue Source	• n.a.	• Subsidy for urgent urban renewal project	• Promotion of private funds by specific builder system
Project Period	<ul style="list-style-type: none"> • Starting construction of overriding bridge in February 2000 • Basuta Shinjuku opened in April 2016 	• Starting land readjustment project in 2010	<ul style="list-style-type: none"> • Road undergroundization decided in 1998 • Opening of Toranomon Hills Mori Tower New Line in June 2014
Site	• Increasing land by construction of artificial ground on the upper part of railway land	• Aggregate dispersed land by land readjustment project	• Urban Renaissance Agency implement land acquisition
Development Profits	• revenue from real estate related business on artificial ground.	• Revenue from real estate related business	• Revenue from real estate related business
Lesson	<ul style="list-style-type: none"> • It is possible to avoid the land risk by using the railway upper part. • The committee composed of academic experts and others conducted coordination of various stake holders. 	<ul style="list-style-type: none"> • Aggregation of dispersed land by land readjustment project. • Increase FAR and induction of private investment by designating urgent urban renewal area. 	• Urban Renaissance Agency will formulate consensus of rights holders, designate Mori Building with extensive knowledge in real estate management as a specific builder and implement redevelopment project that makes good use of special fields

Source: JICA Study Team

6) Case Study of Development along Railway

2.8 In Japan where urbanization has been advanced around the railroad, urban development has a closely relationship with the railway station. About 30 million Tokyo metropolitan areas were formed, it can be said that the railway which has function of mass transport enabled it. Along with the progress of urbanization, Japan's experience of urban planning and railway network based on master plan for a long time is a valuable experience for large Asian cities.

2.9 Urban Railway stations tend to develop as a transport base and a commercial center when users reach from 20,000 to hundreds of thousands. In developing countries, real estate companies understand the potentials around the station, and there are many cases which they buy up lands around stations. Railway planning in developing countries is primarily aimed at resolving traffic congestion, and it tends to think about the operation of railways only by the number of users, and the viewpoint of railway management is lacking. In many cases it is often set without considering railway development, and the railroad planning route and planned site of the station are often released beforehand. Therefore, there are many cases that lands around station are bought up by private sector.

2.10 The potential of the railway station is understood by the Japanese railway company as development of commercial facilities at the station and real estate development of the railway land, and many projects are being carried out. Looking at cases of development along railway which has close collaboration with railway, there are the following types, industrial site along railway, railway idle land, development of new stations due to developer burden, large-scale development projects.

Table 2.3 Examples of development along railway in Japan

	Ebisu Garden Place	Tokyo Sky Tree	Shiodome area
Objective	• Land use conversion and effective utilization of factory site	• Effective utilization of railway site (cargo handling station)	• Effective utilization of cargo terminal land
Business Entity	• Sapporo Beer, Residential Cities Reserve Corporation	• Tobu Tower Sky Tree (Tobu Railway is the largest shareholder)	• Combined project by Tokyo Metropolitan Urban Development Bureau and private company

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

Business scale (Area, number of units, business etc.)	<ul style="list-style-type: none"> • Site area: 83,000 m² • Total Project Cost: 295 billion JPY 	<ul style="list-style-type: none"> • Site area: 36,844 m² • Total Project Cost: 65 billion JPY 	<ul style="list-style-type: none"> • Construction area: Approximately 30.7 ha • Started with a project cost of 149.3 billion yen
Special Revenue Source	<ul style="list-style-type: none"> • Subsidy of housing development city promotion project 	<ul style="list-style-type: none"> • Procurement of funds through issuance of euro bonds 	<ul style="list-style-type: none"> • n.a.
Project Period	<ul style="list-style-type: none"> • August 1991 - September 1994 	<ul style="list-style-type: none"> • July 2008 - February 2012 	<ul style="list-style-type: none"> • 1985 Establishment of planning committee on Shiodome district
Site	<ul style="list-style-type: none"> • Use of factory site 	<ul style="list-style-type: none"> • Use of railway site 	<ul style="list-style-type: none"> • Land Readjustment Project
Development Profits	<ul style="list-style-type: none"> • Revenue from real estate related business 	<ul style="list-style-type: none"> • Revenue from real estate related business 	<ul style="list-style-type: none"> • Revenue from real estate related business
Lesson	<ul style="list-style-type: none"> • Effective urban development by Land use conversion and changing FAR • Increase the number of passengers by access between station and redevelopment district • Effective utilization of factory land 	<ul style="list-style-type: none"> • Reduction of development risk by using railway site 	<ul style="list-style-type: none"> • Reduce land risk by using the cargo terminal site
	Saitama Shintoshin	Shinagawa	Koshigaya Lake Town
Objective	<ul style="list-style-type: none"> • Relocation of the operation stations as business nuclear cities based on the capital development plan 	<ul style="list-style-type: none"> • Construction of core facilities to be the core of international exchange base 	<ul style="list-style-type: none"> • Establish a new station in the middle of existing stations and develop new towns, industrial parks etc.
Business Entity	<ul style="list-style-type: none"> • Country, Saitama Prefecture, Housing · Urban Development Corporation (now Urban Regeneration Organization) MND Saitama (Mitsubishi Estate, Nippon Steel Urban Development, Daiei Real Estate) 	<ul style="list-style-type: none"> • JR East 	<ul style="list-style-type: none"> • Developers and municipality
Business scale (Area, number of units, business etc.)	<ul style="list-style-type: none"> • Project cost: about 94.3 billion JPY • Development area: about 47.4 ha 	<ul style="list-style-type: none"> • Development area: about 16 ha 	<ul style="list-style-type: none"> • Development area: about 225.6 ha • Station cost :3.6 billion JPY
Special Revenue Source	<ul style="list-style-type: none"> • n.a. 	<ul style="list-style-type: none"> • Private fund 	<ul style="list-style-type: none"> • Local burden as property tax
Project Period	<ul style="list-style-type: none"> • Ongoing 	<ul style="list-style-type: none"> • Ongoing (provisional opening in 2020, scheduled to start in 2024) 	<ul style="list-style-type: none"> • 1996 Decision of land readjustment project • 2008 Opening of a town event
Site	<ul style="list-style-type: none"> • Land Readjustment Project 	<ul style="list-style-type: none"> • Securing development site by moving train station 	<ul style="list-style-type: none"> • Land Readjustment Project
Development Profits	<ul style="list-style-type: none"> • Revenue from real estate related business 	<ul style="list-style-type: none"> • Revenue from real estate related business 	<ul style="list-style-type: none"> • Reduction of cost of new stations due to price increase of land price
Lesson	<ul style="list-style-type: none"> • Development of commercial facilities such as business facilities has greatly influenced the increase in railway users • Reduce land risk by relocation of the operation stations. 	<ul style="list-style-type: none"> • Long-term efforts have created land for development from relocation of depo. 	<ul style="list-style-type: none"> • Increase property tax due to rise in land price
	Honjo Waseda Station	Minato Mirai 21	Yurikamome Rinkai Subcenter Development
Objective	<ul style="list-style-type: none"> • Honjo regional base as the core of urban area 	<ul style="list-style-type: none"> • Development of commuting line 	<ul style="list-style-type: none"> • Improve access to reclaimed land where traffic is inconvenient
Business Entity	<ul style="list-style-type: none"> • Honjo City, Urban Renaissance Agency 	<ul style="list-style-type: none"> • Yokohama city 	<ul style="list-style-type: none"> • Tokyo
Business scale (Area, number of units, business etc.)	<ul style="list-style-type: none"> • Site area: about 64.6 ha • Estimated project cost :14.55 billion JPY 	<ul style="list-style-type: none"> • Area :186 ha • Plan for employment population of 190,000 and resident population 10,000 • (Landfill of about 79.3 ha) • 	<ul style="list-style-type: none"> • Development area: Approximately 442 ha
Special Revenue Source	<ul style="list-style-type: none"> • Saitama, Honjo-shi 	<ul style="list-style-type: none"> • Yokohama City and large land owner construction cover partial funds. 	<ul style="list-style-type: none"> • Tokyo

		<ul style="list-style-type: none"> Land users around the new station cover approximately 50 billion JPY. 	
Project Period	<ul style="list-style-type: none"> Scheduled for 2018 from 2006 	<ul style="list-style-type: none"> Ongoing 	<ul style="list-style-type: none"> 1987 Rinkai sub-city development basic plan Yurikamome opened in 1995
Site	<ul style="list-style-type: none"> Land Readjustment Project 	<ul style="list-style-type: none"> To expand site by landfill 	<ul style="list-style-type: none"> Tokyo sub-central development by landfill
Development Profits	<ul style="list-style-type: none"> Revenue from real estate related business 	<ul style="list-style-type: none"> Revenue from real estate related business 	<ul style="list-style-type: none"> Supplementing the project cost by raising the asset value of the land
Lesson	<ul style="list-style-type: none"> To plan suburban area based on Shinkansen new station 	<ul style="list-style-type: none"> To expect the increase of land price by borrowing railway funds 	<ul style="list-style-type: none"> Improvement of access to central area leads to improvement of property value of land

Source: JICA Study Team

2.11 Many cases are seen as large-scale development cases combined with the establishment of railway stations and routes. In particular, it is a large-scale residential area development to resolve rapid population growth and many system reforms and new rules were proposed to resolve many problems based on urban development. The New Residential Urban Development Project formulated in 1963 is a residential land development project based on the full land acquisition system under the New Housing Urban Development Law. Tama New Town project under the New Housing Urban Development Law was a trigger for subsidiary system of access railway to new town project, because railway companies must cover many funds of this project. After that, the residential land development corporation that enabled integral development (internal assistance) was established. "Chiba New Town" was started based on the residential land development corporation. Later, "Act on Special Measures concerning Comprehensive Advancement of Housing Development and Railway Construction in Metropolitan Areas" was enacted and "Tsukuba Express" was started to develop under this act. Because of the revision of such a system, large-scale new towns have been developed and each project has its own characteristics.

2.12 For large-scale new town development in the suburbs, commuting means are indispensable, and there are many cases of residential land development and integrated development of railway new lines. In the old days, Tama rural urban development which started 48 years ago, Yurigaoka residential area which introduced a new transportation system, case of introducing railway to the public corporation's new town development, case of that same entity carry out both housing development and railway construction, examples of attempts to create lands along railway by land readjustment project, there are changes in the development method like these cases by the change of the times.

Table 2.4 Examples of development along railway

Railway Development Plan	Features of project	Lesson
Tokyu Denentoshi Line Tokyu Tama Denentoshi development	<ul style="list-style-type: none"> Denentoshi development is a representative case of Japan 's development along railway that formed cities with a population of 600,000 along the railway in about 45 years. The project was realized by a scheme of land readjustment project and the private sector got reserved area instead of implementation of land readjustment project. It was planned with railway plan to integrate the urban development project and the railway. Tokyu Cooperation Efforts to raise the asset value along Tokyu Denentoshi Line through redevelopment of stations such as Futako Tamagawa, Tama Plaza, etc. In addition, Tokyu Cooperation try to implement town management, Next-generation suburban town planning and improvement of civic pride to raise the value of area and meet super-aging. 	<ul style="list-style-type: none"> A long-term effort system is necessary. A other scheme to proceed land readjustment project except for advance land acquisition (such as a joint project with landowners) Non-railway income exceeds 80% of whole profit due to diversified business development such as living service business and

Railway Development Plan	Features of project	Lesson
		management super markets and so on.
Odakyu Line, Keio Line Tama new town	<ul style="list-style-type: none"> Tama new town is the largest new town in Japan, with a planned population of 340,000, conducted by Tokyo metropolitan government, Japan housing cooperation and so on. A representative example of a suburban NT that introduced the Odakyu Line, Keio Line, etc for commuter transportation system. New town development (the New Housing Urban Development Law) by the pre-acquisition of the land was carried out, the other lands are developed by land readjustment project. Aging is a problem, because residents started to live at same time. It has universities, research institutes, companies, hospitals and other regional complexes. 	<ul style="list-style-type: none"> Residential development is limited to the public corporation, railway operators cannot develop along railway In order to maintain asset value, it is indispensable to form communities by various hierarchies.
Hokuso Line Chiba new town	<ul style="list-style-type: none"> Case study on integrated development project of railway and NT by the housing development corporation. As a result of a prolonged advance land acquisition method and a declining demand for housing against the planned population of 300,000, the plan was completed with population of 180,000. Therefore, the Hokuso Line is a high fare railway. 	<ul style="list-style-type: none"> Efficiently operate the business, avoid prolonged Avoid excessive investment as profitable business.
Tsukuba Express Line Development along tsukubai express line	<ul style="list-style-type: none"> Tsukuba Express is a large-scale development along railway that municipalities and the Urban Renaissance Agency conducted. When UR implemented land readjustment project, rate of land decrease was explained as 40% and municipalities covered the excess. Therefore, the burden of municipalities was a big. Although it was a project to secure land with replotting in area of land readjustment project, some area delayed these projects. As the result of the delay, land acquisition was needed to ensure lands. The construction cost of the underground structure in the central part required a huge construction cost (808.1 billion yen), and as a result, it was decided to cover cost with the investment of the municipality. 	<ul style="list-style-type: none"> The development along railway is project under government, so the burden of municipalities tend to be a big. There was a time of oversupply of residential due to supply and carry out projects at the same time Currently the railway operating balance is turning into a surplus as the population along the railway increases.
Hankyu Corporation	<ul style="list-style-type: none"> It was a company that made the beginning of integrated development of suburban housing, not only for suburban housing development, but also for commuters in the city center direction. In addition, it developed leisure facilities such as Takarazuka Opera in suburban area, and tried to make a trend of user from center city to suburban. 	<ul style="list-style-type: none"> It was a pioneer of development along railway in Japanese and carried out to make a trend of both direction.
Yukarigaoka Line	<ul style="list-style-type: none"> Yamaman, a real estate company, started to develop railway and newtown includes in not only infrastructure but also service and others. Considering sustainability for of the community, Yamaman sells a certain number of houses each year and try not to bias the age group. Also, it is working on the improvement of various living service facilities and living support facilities. 	<ul style="list-style-type: none"> This is first case which private led urban transportation system and residential land development. The infrastructure cost burden is large and the railway management is squeezed.

Source: JICA Study Team

2.2 Case Study of Hong Kong and Singapore

2.13 Hong Kong and Singapore have grown from a developing country stage to a developed country and have been promoting urban development while responding to population increase and traffic problems like other developing country cities. In this process, Urban Railway play a major role and support the mobility of citizens as a backbone of public transportation. Urban Railway in Hong Kong succeeded in returning development profits to urban railway through integrated railway and urban development, Singapore also developed urban railway and is ranked higher in the most attractive cities in the world.

1) Hong Kong Experience

(1) Overview of Hong Kong

2.14 Hong Kong is located on the coast of the southern region of China and consists of Hong Kong Island, the Kowloon Peninsula and the surrounding islands, the area is 275 km², the city has a population of 7.3 million people. The area is surrounded by mountainous areas, and an extremely high-density urban area was formed in order to effectively utilize the limited flat land. Although it was an international relay trade port for a long time, now it is an important financial market and an important position along with New York, London, Tokyo. Various public transportation such as trams, buses, water transportation, are being developed as well as railway, and the share of public transportation is extremely high. On the other hand, the level of car ownership is generally low. Currently it already has a city rail network of 10 routes 246 km, but plans to extend more than 100 km for the future. In addition to urban railway, it has a highway network of approximately 250 km.

2.15 In Hong Kong, the administrative area is narrow, there are many hilly areas and the suitable development areas are limited, so it has suffered from serious housing problems. It was said that it is not unusual for three generation families to live in the flat of about 2DK. In addition, road construction was also inadequate and traffic problems were serious. In order to solve such a situation, development of new town (bed town) including Hong Kong subway construction and super high rise residential housing was positively implemented. It is believed that access to the city center and housing problems were improved, foreign investment became active, and contributed to new economic development. Hong Kong's New Town began in the 1950's, but it was in earnest in the 1970's that the nine new towns have been developed and it is said that about half of the population of Hong Kong is accommodated. These new towns, urban centers and activity bases are connected by urban railway and highway network.

(2) Urban Railway System

2.16 Since the early 1970s, economic growth, housing development demand, population growth in Shinkai (out of Hong Kong, areas other than Hong Kong Island and Kowloon Peninsula) greatly exceeded the outlook, while road improvement has failed to catch up, it was said that necessity of comprehensive traffic plan was recognized. It was published as "Transport policy white paper " in 1979. In the 1970s, the outline of the urban use plan was formulated first, and the traffic plan was decided after it. As a result, the development of transportation infrastructure will be followed by city and housing development. However, in the early 1980s, it was recognized that due to resource constraints, the capacity of the transportation system cannot be expanded indefinitely. And the demand for transportation was the result of mutual use of land use and traffic improvement, it was thought that adjustment of both was necessary and it was possible to realize Value for Money financially and economically. It announced, "All ports (Hong Kong) development strategy" which integrated land use plan and transportation plan in 1984. In 1986, the government decided to change to a plan that takes into consideration resource allocation from the after-demand plan, in the "Secondary body (total) transport research" targeting 2001. In other words, in order to realize efficient transport infrastructure development with conscious of the budget constraint, priorities should be set in cost benefit calculation. Also, it was suggested that consideration should be given to reducing traffic demand within the range of the proposed traffic network capacity, and it was published in 1990 as "Second Transport Policy White

Paper". Integral development in Hong Kong is thought to have progressed under political background.

(3) Integrated Development by Urban Railway and Returning Development Profits

2.17 Hong Kong, along with a high standard of urban railway networks, is also known for internalizing the benefits of station and railway development into railway operations by its maintenance method. At the beginning of the construction, the public sold the land cheaply, and the resulting development benefit was used as a part of the railway project expenses, which led to self-reliant management after that. With this kind of internal aid, the railway administration was supported. This system has been actively used even on subsequent lines, and real estate development profits from integrated development are regularly recorded. Characteristics of returning development profits by Hong Kong MTR are as follows.

- (i) Management of real estate in the upper part of the station and garage, and surrounding real estate development is the returning development profit method in the case of MTR. In fact, it led the joint venture with private real estate companies and developed residential and commercial facilities. In addition, it sells many of them, while continuing ownership to continue leasing management.
- (ii) The sale business is an essential element for bringing profit early and efficiently reducing interest burden on construction costs.

2.18 From the viewpoint of safe operation of railway, MRTC keeps ownership of the upper part of the garage in the developed real estate and manages real estate by leasing. It includes shopping centres, housing facilities, office buildings, and MRTC is one of the biggest real estate managers in Hong Kong.

(4) Lessons from Hong Kong's Experience

2.19 The lessons learned from Hong Kong's development along railways are as follows.

- (i) Although it was established as a business that produces stable profit by developing integrated urban railway, this has been made possible by the preferential acquisition of public land. However, in urban areas where high-density traffic access is likely to be restricted, it seems to be largely based on the development of planning power and business model to maximize the potential of high-quality railway service.
- (ii) Creating a railway business model that makes active use of foreign human resource, technology and capital and enables overseas expansion.
- (iii) By separately using sale and renting, MRTC secured the safety of railways and at the same time made a mechanism to ensure continuous profits while reducing the burden of initial investment.

2) Singapore's Experience

(1) Outline of Singapore

2.20 Singapore is the highest income-level city state in Asia with a population of 5.7 million in area 518 km². From the beginning of Singapore, Singapore has practiced urban development systematically from the viewpoint of effective use of limited land. The first conceptual plan showing the urban development strategy was created in 1971 and then

revised in 1991 and 2001, but the basic idea of the spatial structure is consistent. The first route of Singapore's urban railway opened in 1987, but it already has shown a plan which has locations in the future of Mass transportation to connect CBD to the center in conceptual plan in 1971.

2.21 Currently, Singapore manages urban traffic by combining high-quality urban railway, urban highway, car restraint (holding control, road pricing), new transportation system, LRT, bus and so on to provide citizens with high-quality mobility. In addition, in Singapore, many of the current expressways (150 routes in 8 routes) had been in operation by 1998, including the Pan-Island Expressway in 1962. Looking at the timing of opening up with urban railway, the development of highway network has almost completed.

(2) Urban Railway System

2.22 Singapore's urban railroad was decided to be implemented in 1982 at the end of the 10 years of research and controversy involving the United Nations and the World Bank, as well as the well-established roads and highly efficient bus systems at the time. Construction started in 1983, partial opening in 1987, 67 km of the first phase in 1993 opened. The route length of MRT is 170 km, and further extension and new line of about 150 km are planned in the future.

(3) Urban Development in Singapore

2.23 Urban development in Singapore had many urban problems such as serious housing shortage, poor living environment, lack of infrastructure, which had been faced at the time of independence in 1965. However, it has developed as a city with competitiveness and attractiveness that is always ranked high. The backgrounds are as follows.

- (a) **Excellent urban planning and this practice under the Ministry of National Development established in 1959**
- (b) **Land system and expansion of state-owned land:** Under the idea that "land belongs to the state ultimately" in Britain, Singapore has aggressively promoted land use after the acquisition of the autonomy right in 1959. It has gotten 30% of the land and played a major role in the improvement of public facilities, urban redevelopment projects and new town development. In addition, nearly 20% of the country's land was increased by landfill, and development of Changi International Airport, Jurong Industrial Park, Pongolu Residential Area, Marina Square and Marina South adjacent to Downtown area was carried out.
- (c) **Land Acquisition System and Urban Development:** Land acquisition is based on the Land Acquisition Act, and government has mandatory land acquisition right, arbitrary acquisition is not implemented. In other words, public works requiring land acquisition will be decided at the National Assembly after negotiations by related ministries and agencies, and acquisitions will be made through procedures such as public notice. In addition, although the government will develop infrastructure after land acquisition, the construction and management of the building is mainly left to the private developer.
- (d) **Housing policy:** Housing construction as the foundation of people's livelihood has been promoted under the goal of cheap housing supply by the government and has made great results. High-rise, high-density residential housing complexes have been constructed, and narrow national land is effectively used. Housing construction has been performed in combination with new town development connected with trunk

transportation network (expressway, urban railroad), not development of old urban area. Under the idea that citizens have their own houses will lead to the stability of society both politically and economically, new town development is promoted as well as the ownership system.

(4) Lessons from Singapore's Experience

2.24 Singapore is one of the few cities, including developed cities, which has implemented development with the conceptual plan. The main lessons learned from that experience are the following.

- (a) **Excellent Urban Planning and its operation:** By developing concept plan containing long term and master plan to regulate and induce concrete development, it regularly formed consensus and developed organization system. The fact that there was the foundation of urban planning in British colonial era also made this possible. Among them, urban planning consistently included land use, housing, transportation and the environment.
- (b) **Government's strong leadership:** There was a strong leadership towards the development of a leader supported by an independent sense of crisis as a small island country with no resources and a government organization supporting this. As a result, coordination between organizations was smoothly carried out.
- (c) **Utilization of foreign human resources, technology and capital:** Singapore has actively accepted overseas investment and foreign resources, as well as ODA, from the beginning of independence and actively utilized infrastructure development.

Appendix E : Main Terminal in Dhaka

1.1 Introduction of Each Study Sites

The survey was done at (a) Gabtoli, (b) Mohakhali, and (c) Sayedabad Bus Terminals and (d) Sadarghat Launch Terminal (Landing Station). The followings are the introductory information of the terminals.

- (a) Gabtoli bus terminal covers the area of north-west, west and southern areas of the country. The terminal is under Dhaka North City Corporation (DNCC) administration. An Assistant Manager is responsible for overall administration of the terminal. The area of the terminal is 123,400 m² (12.34 hectare).
- (b) Mohakhali Bus Terminal is one of three main Inter District Bus Terminals in Dhaka, opened in 1984. The terminal primarily serves destinations in northern Bangladesh, including Mymensingh, Netrokona, Tangail, Jamalpur, Sherpur, Kishoreganj, and Bogra and also north-east areas, for instance, Sylhet areas. The area is 36,400 m² (3.64hectare) under the administration of Dhaka North City Corporation (DNCC).
- (c) Sayedabad Bus Terminal is one of the most important intercity bus terminals in Dhaka. Usually from Sayedabad terminal, intercity coaches start for Sylhet, Moulvibazar, Comilla, Chandpur, Chittagong, Cox's Bazar, Rangamati, Bandarban, Gopalganj, Sunamganj, Kishoreganj, Feni, Noakhali, Hobiganj, Brahmanbaria, Laxmipur, and Barishal districts. Beside the non-A/C sitting services, a number of A/C luxury chair coaches move from Sayedabad bus terminal. The area of Sayedabad Terminal is 40,500m² (4.05 hectare) under the administration of Dhaka South City Corporation (DSCC).
- (d) Sadarghat Launch Terminal is one of the largest river ports in Bangladesh which is located in the southern part of Dhaka, on the river Buriganga. About 200 large and small passenger launches depart and arrive at the terminal every day. The port serves for the major cities in the southern part of Bangladesh from Dhaka. The port is under the administration of Bangladesh Inland Water Transport Authority (BIWTA).

1.2 Current Conditions and Information

1) Number of Buses and Operation Areas

The number of buses/launches by terminals is shown in the following Table 1.2.1. The details of Buses/Launches by Company are shown in Annexure – 1.

Table 1.2.1 Number of Buses by Terminals

Terminals	Number of Buses/ Launches	Bus Operation Areas by Division
Gabtoli Bus Terminals	3,085	Barisal, Khulna, Rajshahi and Rangpur
Mohakhali Bus Terminals	1,812	Dhaka, Mymensingh, Sylhet, Rangpur, Rajshahi
Sayedabad Bus Terminals	4,520	Dhaka, Chittagong, Sylhet, Barisal, Khulna
Sadarghat Launch Terminal	243	Dhaka, Barisal, Khulna, Chittagong

2) Riding Capacity, Fleet Age and Average Driving Distance per Day

- (a) Mohakhai Bus Terminal: The buses are mainly local type and plying nearby districts

and seating capacity is 52. The average life is 6.7 year which is more than average life. However, the bus services are average quality.

- (b) Sayedabad Bus Terminal: The terminal is using by Chittagong and Sylhet areas and standard buses. Therefore, the operators are changing their fleet within short period of time and which is 4.5 years.
- (c) Gabtoli Bus Terminal: The terminal is using by Barisal, Khulna, Rajshahi and Rangpur areas and standard buses and also mixed of medium quality of buses. The operators are also changing their buses frequently, because to attract the passengers. The trip distance of buses from Gabtoli is about 423km/day which is longer that other two terminals, because the terminal covers mainly long-distance destinations.
- (d) Sadarghat Launch Terminal: The Launches scheduled for Sadarghat terminal are of three types: Large, Medium and Small with passenger capacity of 1000-1500, 500-750 and 150-400 respectively. The average launch riding capacity is 773 passengers for Sadarghat terminal.

Table 1.2.2 Riding Capacity, Fleet Age and Average Driving Distance per Day

SL	Terminal	Measurement	Unit	Value
1	Mohakhali	Average Bus Riding Capacity	No. of Passengers	43
2		Average Fleet Age	Year	6.7
3		Average Driving Distance Per Day	Kilometre	340
4	Sayedabad	Average Bus Riding Capacity	No. of Passengers	42
5		Average Fleet Age	Year	4.5
6		Average Driving Distance Per Day	Kilometre	335
7	Gabtoli	Average Bus Riding Capacity	No. of Passengers	40
8		Average Fleet Age	Year	4.6
9		Average Driving Distance Per Day	Kilometre	423
10	Sadarghat	Average Launch Riding Capacity	No. of Passengers	773
11		Average Fleet Age	Year	7
12		Average Driving Distance Per Day	Kilometre	280

3) Average Number of Passengers and Number of Trips

The following Table 1.2.3 shows the average number of passengers and number of single trips. It is found that the number of bus trip of Mohakhali is more than other terminals, because length of routes is shorter. So, shorter length more trips and longer length less trips. Number of operated buses and ferries of each route, Average no. of passengers per trip, No. of single trips per day by route by company is in Annexure – 2.

Table 1.2.3 Average Number of Passengers and Number of Trips

SL	Terminal	Measurement	Unit	Value
1	Mohakhali	Average No. of Passenger Per Trips	No. of Passengers	25
2		Average No. of Single Trips	No. of Trips	2.22
3	Sayedabad	Average No. of Passenger Per Trips	No. of Passengers	28
4		Average No. of Single Trips	No. of Trips	1.91
5	Gabtoli	Average No. of Passenger Per Trips	No. of Passengers	31

6		Average No. of Single Trips	No. of Trips	1.70
7	Sadarghat	Average No. of Passenger Per Trips	No. of Passengers	396
8		Average No. of Single Trips	No. of Trips	1

4) Bus & Launch Fare

Bangladesh Road Transport Authority (BRTA) is the only authority to fix the bus and minibus fare in the country. However private companies follow the same fare structure of BRTA. In fare structure calculation, BRTA considers distance and bridge toll, it does not consider facility and specification (Such as AC and travel time). The fare for long distance bus is Taka 1.42 per kilometer plus the bridge toll divided by seating capacity for per person. However, private operators are charging higher or lower fare rate than BRTA rate, such as, higher rate for AC, comfortable seating facility buses. Lower fare rate for comfortable seating buses (Say 52 seat in a bus).

For river vessels the rate was fixed by BIWTA (Bangladesh Inland Water Transport Authority) on 2014. The fare is of third class/ deck (For first 100 KM: 1.7 Taka per KM, After 100 KM: per KM 1.4 Taka). For second class seat the fare is double. For first class seat fare is 3 to 4 times of third class fare based on facility provided.

Bus Routes length, locations, destinations and permitted fare for 40 seated bus by bus terminal of Bangladesh Road Transport Authority (BRTA) Route Permit (May 2016) list and the Launch Route Permit (2014) list of Bangladesh Inland Water Transport Authority (BIWTA) are presented on Annexure-3.

5) Bus and Launch Trip Frequency

For Mohakhali bus terminal as majority of the bus routes are towards greater Mymensingh and Tangail districts the interval between buses is around half an hour. For routes toward Sylhet, Rajshahi and Rangpur divisions the average bus interval is 2 to 3 hours.

For Sayedabad bus terminal for bus trips to Chittagong, Sylhet, Comilla, Noakhali, Mawa, Munshiganj are start in every 15 to 30 minutes. For buses toward Barisal and Khulna divisions; Cox's Bazar the interval is 1 to 2 hours. For other destinations bus companys have 1 to 2 trips daily.

For Gabtoli bus terminal as majority of the trips are long distance, the usual schedule is one trip per 2 hours per route per bus company, though the concentration of trips are more on 7 am to 10 am and 8pm to 12am. For all the bus terminals the bus service are started at 6 am in the morning up to 12am at night.

For Sadarghat launch terminal for long distance route large and medium size launches start from the terminal in the morning and evening twice. For shorter routes the interval time between launches is 30 minutes to 1 hours and operated only during day time. Launch schedule usually varies depending on weather and season.

6) Terminal Fee, Average Stop Time and Average Number of Working Days and Monthly Maintenance Cost

The following Table 1.2.4 shows the terminal fee, average stop time and average number of working days and monthly maintenance cost. The maintenance cost of buses at Mohakhali Bus Terminal is BDT 9,270 only which is about 1/3rd of other terminals, because

of short distance bus services.

Table 1.2.4 Terminal Fee, Average Stop Time and Average Number of Working Days and Monthly Maintenance Cost

SL	Terminal	Measurement	Unit	Value
1	Mohakhali	Terminal Usage Fee (Short Period)	BDT	40
2		Average Stop Time	Hour	2.38
3		Average No. of Working days per months	Days	24
4		Average Maintenance Cost per Vehicle per month	BDT	9,270
5	Sayedabad	Terminal Usage Fee (Short Period)	BDT	40
6		Average Stop Time	Hour	5
7		Average No. of Working days per months	Days	25
8		Average Maintenance Cost per Vehicle per month	BDT	21,253
9	Gabtoli	Terminal Usage Fee (Short Period)	BDT	40
10		Average Stop Time	Hour	3.25
11		Average No. of Working days per months	Days	25
12		Average Maintenance Cost per Vehicle per month	BDT	27,056
13	Sadarghat	Terminal Usage Fee	BDT	300
14		Average Stop Time	Hour	5
15		Average No. of Working days per months	Days	20
16		Average Maintenance Cost per Vehicle per month	BDT	325,000

7) Problems for Users and Operation by Terminal

The following Table 6 shows the problems for users and operation by terminals. It is found that the core problems for the operation and terminal use are inadequate space, terminal maintenance and security.

Table 1.2.5 Problems for Users and Operation by Terminal

Problems for the User/Operation	Terminal Name			
	Mohakhali	Sayedabad	Gabtoli	Sadarghat
Inadequate Space	89.1%	88.2%	83.5%	78.6%
Terminal Maintenance	82.6%	90.2%	75.3%	92.9%
Security	82.6%	80.4%	84.7%	85.7%
Unnecessary Subscription Fee	0.0%	11.8%	5.9%	7.1%
Inadequate Maintenance Workshop	0.0%	8.8%	4.7%	0.0%

Note: Percentage is more than 100 because multiple response

Annexure 1: Number of Fleet

1) Mohakhali

SL No.	Name of the Bus Company	Total Number of Buses of the company
1	Boyshakhi	18
2	Sonar Bangla	60
3	S.I Enterprise	50
4	Rifat	6
5	Orin Travels	13
6	Crown	6
7	Ovi Enterprise	22
8	Madargong Special	12
9	Hazi Paribahan	22
10	ENA	280
11	Tuhin Elite	24
12	Manik Express	33
13	Desh Travels	85
14	National Travesl	40
15	Rajib	40
16	A C Supre	30
17	Hazrat Shah Jalal	45
18	Alam Asia	100
19	Green Line	30
20	Konak Chapa	1
21	Islam	60
22	Imam	62
23	Shyamoli Bangla	60
24	Arafa	1
25	Monna Poribahan	26
26	Ananna Poribahan	46
27	Uttara Arabian Transport	50
28	Nirala super	46
29	J. K Special	3
30	Jalshiri	50
31	Titash Travels	25
32	Badshah	30
33	Anono Classic	35
34	P.P.L Super	20
35	Uzan Vati	30
36	Binimoy	95
37	Shah Fateh Ali Poribohan	60
38	Akota Travels	70
39	S R Travels	13
40	Jakir Travels	4
41	Pingky	4
42	Hazi Sorker Poribohan	4
43	Ccono Exclusive	26
44	Dhaka Jamalpur, Mohanagar	8
45	Doles Shari	64
46	Siam	3
	Total	1812

2) Sayedabad

SL No.	Name of the Bus Company	Total Number of Buses of the company
1	Star Line	200
2	Diganto Express	26
3	Econo	70
4	Dula Poribahan	22
5	Sundurban Classic	6
6	Sonali poribahan	11
7	Monohordi Pori	29
8	Abhilash	30
9	N.P.Poribahan	6
10	Akota Express	2
11	Asa Poribahan	2
12	M.R.Transport	4
13	Ruposi Bangla	16
14	New oversil	2
15	Al-Arafat pori	4
16	Meghna Express	7
17	Baloful Transport	15
18	Parjotok	22
19	Hamim	26

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL No.	Name of the Bus Company	Total Number of Buses of the company
20	Meghna Travels	40
21	Grameen Service	12
22	Rupali Bangla	6
23	Sugandha	16
24	Megna Travels	10
25	Azmeri Poribohan	3
26	Bapari Poribohan	6
27	Sarbik Poribohan	3
28	Kuwakata Express	4
29	Falguni Poribohan	10
30	Somudro Soikot pori	4
31	Bolessor Poribohan	6
32	Mohona	2
33	New Antora Classic	7
34	Royel Monohardi	48
35	Ahmed Poribohan	5
36	Limon Poribohan	5
37	J.B Travels	12
38	Al-Shamim Express	2
39	Bilash Poribohan	2
40	Sakin Poribohan	2
41	New Sammi	2
42	Borisa Express	4
43	Shakur Poribohan	4
44	Shyamoli	300
45	Hanif Enterprise	800
46	Shyamoli(SP)	400
47	Mamun Enterprise	80
48	Al-Mobaraka	40
49	Ekushe Express	65
50	Sheba Green Line	110
51	Shadhin Bangla	3
52	Tongi para	55
53	Dhaka Express	24
54	K.k Sheba	21
55	Shohagh	100
56	Soudia	100
57	Modern	10
58	Agroduct	6
59	Nilacol	5
60	Tisha Exclusive	90
61	Padma	30
62	Janani Service	18
63	Anando Poribohan	6
64	Kmaa Poribohan	2
65	Lacky Express	4
66	Himachol Express	50
67	S.Alom	56
68	Dream Line	30
69	Year-71	20
70	Eagle Poribohan	180
71	Ilish	2
72	Unique Service	195
73	Jatayat	40
74	Ena	120
75	Shanti Poribohan	80
76	Rafin-Safin	10
77	Ullash poribohan	20
78	New Eagle	6
79	Tisha Exclusive	5
80	New Line	4
81	Ekushe Express	70
82	C.D.M	25
83	Mousumi Poribohan	5
84	Jonaki Service	35
85	Bishmillah	2
86	Borisa Express	19
87	Shopna Santa	10
88	Panchagarh Travels	8
89	Romar	20
90	Elish Poribohan	60
91	C.D.M Travels	300

SL No.	Name of the Bus Company	Total Number of Buses of the company
92	Pabna Express	10
93	Chapay Travels	4
94	Saddam Enterprise	12
95	Western Travels	4
96	M.R Poribohan	4
97	Shana Travels	4
98	United Poribohan	6
99	R.P .Aligans	10
100	Ahsan Enterprise	30
101	Shanti Poribohan	80
Total		4520

3) Gabtoli

SL No.	Name of the Bus Company	Total Number of Buses of the company
1	Egale Poribohan	180
2	Sakura Poribohan	67
3	Suborno Poribohan	10
4	Rajbari Poribohan	5
5	Bangla Travel	6
6	K. Line	17
7	Green Bangla Pori	4
8	H.R.Travel	10
9	Kings Poribohan	6
10	Surjo Mukhi	20
11	A.K Travel	62
12	M.M.Poribohan	4
13	Darsona Delux	10
14	Ishordi Express	7
15	J.R Poribohan	55
16	Sarbik Poribohan	45
17	Sonar Tory	17
18	J.Line	12
19	Golden Line	100
20	Sumon Delux	11
21	South Line	27
22	Comfot Line	20
23	Royel Express	30
24	Rabeya Poribohan	10
25	Rajdhuni Express	10
26	Shouhardo Poribohan	13
27	King Fiser Travel	13
28	Sangram Poribohan	16
29	AlamEnterprise	12
30	Tuhin Elite	29
31	Grameen Travel	29
32	Rahobar Enterprise	8
33	Mamun Enterprise	80
34	Rupa	18
35	Meherpur Delux	3
36	Zaker Enterprise	15
37	Sundurban Express	10
38	R.K Exclusive	7
39	Kaliganj Express	18
40	R.M.Travel	4
41	Shoukhin Poribohan	20
42	Sonali poribohan	14
43	S.P.Golden Line	15
44	Fatema Special	7
45	Soheli Poribohan	4
46	Citra Poribohan	2
47	Duruti Poribohan	14
48	Kohinur Poribohan	5
49	Satkhira Express	15
50	Alpha Line	5
51	Rajoni gondha	80
52	Diganto Poribohan	80
53	Sumon Delux	9
54	National Travesl	50
55	Sony Super	8
56	Salma Enterprise	8
57	S.B.Super Delux	14
58	Nabil Poribohan	90

SL No.	Name of the Bus Company	Total Number of Buses of the company
59	Hanif Enterprise	750
60	M.M.Poribohan	8
61	F.k.Super Delux	8
62	Purbasha Poribohan	30
63	Shyamoli Poribohan	400
64	Rasel Enterprise	55
65	Khalek Enterprise	17
66	Sathi Enterprise	4
67	Century Travel	8
68	Bikash Poribohan	23
69	MR.Enterprise	15
70	Sheba Green Line	44
71	Uttara Poribohan	8
72	C.D Delux	12
73	S.B.Super Delux	30
74	Shuvo Bashundhora	20
75	Apu Classic	2
76	Surovi Poribohan	15
77	Anando Poribohan	20
78	Sky Line	4
79	Asad Poribohan	8
80	Himel Poribohan	4
81	Haq Special	6
82	R.B.Travel	12
83	Rojina	30
84	Shohagh Poribohan	80
85	Mim Poribohan	12
Total		3085

4) Sadarghat

Launch Company Name	Launch Size	No of Launch
Feari Shipping Line	Large & Medium	3
Faruk Shipping Line		4
Surovi Navigation		3
Begum Transport		4
Prova Shipping Line		4
M K Shipping Line		4
Fardin Shipping Line		1
Shattar Shipping Line		1
Gazi River Transport		1
Farhan Navigation & Habiba Navigation		6
Tuhin Rabbi Shipping		3
Sharuk Enterprise		2
JomJom Water Transport		1
Khan Water Way		3
A Rahman Shipping Line		1
M.V Deshantor		1
Prince Water Way		1
Mahabuddin Ahmed		3
Rana Water Transport		13
Bondhon Water Way		3
Shuvoraj Shipping Line		1
Padma Water Way		4
Jahid Shipping Line		3
Nijam Shipping Line		1
Doler Shipping Line		2
E Ali Shipping Line		3
Salma Shipping Line		1
Salma Water Way		6
Agorpur Navigation & Farhan Navigation		6
BITWC		5
Dhaka-Chandpur Route (Company with Single Launch)		29
Short Routes Launches	Small	120
Total		243

Annexure 2: Route

1) Mohakhali

SL. No.	Company Name	Route	No. of vehicle / fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
1	BAYSHAKHI	Dhaka - Bakshiganj	18	350	40	2
2	SONAR BANGLA	Dhaka (Mohakhali) - Sherpur, Via-Tangail, Jamalpur.	40	188	40	2
3	SI ENTERPRISE	Dhaka (Mohakhali) - Sirajganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu.	14	128	25	2
4	RIFAT	Dhaka - Rowmari	6	283	30	2
5	ORIN TRAVELS	Dhaka (Mohakhali) -Gaibandha , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Palashbari.	6	257	20	2
6	CROWN	Dhaka (Mohakhali) - Jamalpur, Via- Tangail, Madhupur.	6	173	25	2
7	OVI ENTERPRISE	Dhaka (Mohakhali) - Sirajganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu.	14	128	20	2
8	MADARGANG SPECIAL	Dhaka (Mohakhali) - Jamalpur, Via- Tangail, Madhupur.	12	173	30	2
9	HAZI PARIBAHAN	Dhaka (Mohakhali) - Nalitabari , Via- Bhaluka, Mymensingh.	16	192	30	2
10	ENA	Dhaka (Mohakhali) - Mymensingh, Via-Bhaluka,Trisal.	80	116	35	3
11	ENA	Dhaka (Mohakhali) - Sunamganj , Via- Bhairab,B-Baria, Madhabpur , Shylhet.	12	307	22	2
12	ENA	Dhaka (Mohakhali) - Biani Bazar , Via- Tongi, Bhairab,B-Baria, Moulavibazar	12	286	22	2
13	ENA	Dhaka (Mohakhali) -Rangpur , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra.	12	384	20	1
14	ENA	Dhaka (Mohakhali) -Srimongal	8	238	20	2
15	ENA	Dhaka (Mohakhali)- Habiganj	8	166	25	2
16	ENA	Dhaka (Mohakhali) - Sylhet , Via- Tongi, Bhairab,B-Baria, Madhabpur, Sayestaganj, Sherpur.	40	257	25	2
17	ENA	Dhaka (Mohakhali) -Chittagong	12	242	24	2
18	ENA	Dhaka (Mohakhali)- Cox's Bazar	12	396	20	1
19	ENA	Dhaka (Mohakhali)- Feni	20	149	30	2
20	TUHIN ELITE	Dhaka (Mohakhali) - Chapai Nawabganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu ,Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	3	297	20	1
21	MANIK EXPRESS	Dhaka (Mohakhali) - Lalmonirhat , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Haragacha.	1	340	20	2
22	DESH TRAVELS	Dhaka (Mohakhali) - Chapai Nawabganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu ,Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	6	297	20	2
23	DESH TRAVELS	Dhaka (Mohakhali) - Rajshahi , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,baraigram,(Natun Rasta), Natore.	6	252	20	2
24	DESH TRAVELS	Mohakhali-Kanshat	2	350	20	2
25	NATIONAL TRAVELS	Dhaka (Mohakhali) - Chapai Nawabganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu ,Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	6	297	20	2
26	NATIONAL TRAVELS	Dhaka (Mohakhali) - Rajshahi , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,baraigram,(Natun Rasta), Natore.	6	252	20	2
27	NATIONAL TRAVELS	Mohakhali-Kanshat	2	350	20	2
28	RAJIB	Dhaka (Mohakhali) - Jamalpur, Via-Bhaluka,Mymensingh, Madhupur.	30	202	25	2
29	A C SUPRE	Dhaka (Mohakhali) - Sherpur, Via-Bhaluka,Mymensingh, Madhupur, Jamalpr.	5	227	25	2
30	HAZRAT SHAH JALAL	Dhaka (Mohakhali) - Netrakona, Via-Bhaluka,Mymensingh.	22	155	27	2
31	RAJIB	Dhaka (Mohakhali) - Dharmapasha , Via- Bhaluka, Mymensingh, Netrakona.	3	195	20	4
32	ALAM ASIA	Dhaka (Mohakhali) - Fulbaria,	70	136	20	2

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

SL. No.	Company Name	Route	No. of vehicle / fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
		Via-Bhaluka,Mymensingh.				
33	GREEN LINE	Dhaka (Mohakhali) - Netrakona, Via-Bhaluka,Mymensingh.	20	155	20	2
34	KONAK CHAPA	Dhaka (Mohakhali) - Dharmapasha , Via-Bhaluka, Mymensingh, Netrakona.	1	183	20	2
35	ISLAM	Dhaka (Mohakhali) - Muktagachha, Via-Bhaluka,Mymensingh.	40	132	20	2
36	IMAM	Dhaka (Mohakhali) - Haluaghat, Via-Bhaluka,Mymensingh.	42	166	25	2
37	SHYAMOLI BANGLA	Dhaka (Mohakhali) - Haluaghat, Via-Bhaluka,Mymensingh.	45	166	23	2
38	ARAFA	Dhaka (Mohakhali) - Dharmapasha , Via-Bhaluka, Mymensingh, Netrakona.	1	181	20	2
39	MONNA PARIBAHAN	Dhaka (Mohakhali) - Nandail	20	167	35	2
40	ANANNA PARIBAHAN	Dhaka (Mohakhali) - Kishoreganj , Via-Kapasias.	40	130	20	3
41	UTTARA ARABIAN TRANSPORT	Dhaka (Mohakhali) - Brahmanbaria, Via-Tongi, Kaliganj,Narsingdi, Bhairab.	35	224	40	2
42	NIRALA SUPER	Dhaka (Mohakhali) - Tangail. Via- Ashulia, Kaliakoir.	30	90	30	2
43	J. K SPECIAL	Dhaka (Mohakhali) -Rangpur , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra.	3	297	40	2
44	JALSHIRI	Dhaka (Mohakhali) - Hossainpur (Kishoreganj Upazila) , Via- Kapasia.	25	137	20	2
45	JALSHIRI	Dhaka (Mohakhali) - Katiadi , Via- Kapasia.	23	106	40	3
46	TITASH TRAVELS	Dhaka (Mohakhali) - Brahmanbaria, Via-Tongi, Kaliganj,Narsingdi, Bhairab.	16	112	25	2
47	BADSHAH	Dhaka (Mohakhali) - Bhairab, Via-Kaliganj,Ghurashal, Narsingdi.	45	91	40	4
48	ANONO CLASSIC	Dhaka (Mohakhali) - Kishoreganj	28	130	25	3
49	P.P.L SUPER	Dhaka (Mohakhali) - Narsingdi , Via- Tongi, Kaliganj, Ghurashal.	16	55.8	35	4
50	UZAN VATI	Dhaka (Mohakhali) - Kishoreganj	22	130	40	2
51	BINIMOY	Dhaka (Mohakhali) - Kendua Bazar, Via-Tangail, Madhupur.	40	142	20	2
52	SHAH FATEH ALI	Dhaka (Mohakhali) - Naogaon , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,bogra.	40	242	30	2
53	AKOTA TRAVELS	Dhaka (Mohakhali) - Rajshahi , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,baragram,(Natun Rasta), Natore.	16	252	20	2
54	AKOTA TRAVELS	Dhaka (Mohakhali) - Naogaon , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,bogra.	16	242	20	2
55	AKOTA TRAVELS	Dhaka (Mohakhali) - Bogra , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka.	16	192	20	2
56	SR TRAVELS	Dhaka (Mohakhali) - Lalmonirhat , Via-Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Haragacha.	8	380	20	1
57	JAKIR TRAVELS	Dhaka (Mohakhali) - Panchagharh , Via-Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra,Ghoraghat,Dinajpur,Thakurgaon .	2	425	20	1
58	PINGKY	Dhaka (Mohakhali) - Kurigram , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Rangpur, Mithapukur, Haragacha.	3	341	20	2
59	HAZI SARKAR PARIBAHAN	Dhaka (Mohakhali) -Rangpur , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra.	2	297	20	2
60	ECONO EXCLUSIVE	Dhaka (Mohakhali) - Brahmanbaria, Via-Tongi, Kaliganj,Narsingdi, Bhairab.	25	112	27	2
61	MOHANAGAR DHAKA-JAMALPUR	Dhaka (Mohakhali) - Jamalpur, Via-Bhaluka,Mymensingh, Madhupur.	5	202	20	2
62	DOLESWARI	Dhaka (Mohakhali) - Tangail. Via- Ashulia, Kaliakoir.	45	90	30	2
63	SIAM	Dhaka-Rawmari	3	283	25	2
Total			1183	13615.8		131

2) Sayedabad

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
1	STAR LINE	Dhaka (Saidabad)- Feni, Via- Comilla.	75	149	32	2
2	STAR LINE	Dhaka (Saidabad)- Parshuram , Via-Comilla, Feni.	4	173	30	2
3	STAR LINE	Dhaka (Saidabad)- Chhagalnaiya, Via-Comilla, Feni.	17	162	30	2
4	STAR LINE	Dhaka (Saidabad)- Sonagazi , Via-Comilla, Feni.	7	168	35	2
5	STAR LINE	Dhaka (Saidabad)- Cox`s Bazar, Via-Comilla, Feni, Chittagong.	2	396	36	1
6	STAR LINE	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	6	242	36	2
7	DIGANTO EXPRESS	Dhaka (Saidabad)- Habiganj, Via-Narsingdi, Bhairab, Madhabpur.	26	166	25	2
8	ECONO	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	1	242	30	2
9	ECONO	Dhaka (Saidabad)- Cox`s Bazar, Via-Comilla, Feni, Chittagong.	1	396	30	1
10	ECONO	Dhaka (Saidabad)- Khagrachhari, Via-Comilla, Feni, Chittagong, Ramgarh.	2	276	25	2
11	ECONO	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmohani, Lakshampur.	45	194	32	2
12	DOLA PARIBAHAN	Dhaka (Saidabad)- Pirojpur , Via-Mawa, Bhanga, Gopalganj, Bagerhat.	15	223	35	2
13	SUNDURBAN CLASSIC	Dhaka (Saidabad)- Khulna, Via-Mawa, Bhanga, Gopalganj.	3	194	15	1
14	SONALI PARIBAHAN	Dhaka (Saidabad)- Madaripur, Via-Mawa, Bhanga.	11	99	20	2
15	MONOHORDI PORI	Dhaka (Saidabad)- Manahardi, Via-Narsingdi.	26	84	15	2
16	ABHILASH	Saydabad-Bishonondi	20	50	25	3
17	N.P.PARIBAHAN	Dhaka (Saidabad)- Chhatak , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	6	275	25	2
18	AKOTA EXPRESS	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	2	307	20	1
19	ASA PORIBAHON	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	2	307	30	1
20	M.R. TRANSPORT	Dhaka (Saidabad)- Companiganj, Via-Comilla, Moynamoti Cantonment.	2	257	20	2
21	RUPOSI BANGLA	Dhaka (Saidabad)- Biani Bazar , Via-Narsingdi, Bhairab, Madhabpur, Moulavibazar, Rajnagar.	4	286	20	1
22	RUPOSI BANGLA	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	1	307	22	1
23	RUPOSI BANGLA	Saydabad-Diroy	2	350	20	1
24	NEW OVERSIL	Dhaka (Saidabad)- Chhatak , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	2	275	35	1
25	JJ TRAVELS	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi, Bhairab, Moulavibazar, Sylhet.	1	307	30	1
26	JJ TRAVELS	Saydabad-Diroy	2	355	30	1
27	AL-ARAFAT PORI	Saydabad-Mongla	3	250	25	1
28	MEGHNA EXPRESS	Saydabad-Rayenda	3	280	30	1
29	BALOFUL TRANSPORT	Dhaka (Saidabad)- Khulna, Via-Mawa, Bhanga, Gopalganj.	6	194	35	1
30	BALOFUL TRANSPORT	Saydabad-Pathorgata	1	420	30	1
31	BALOFUL TRANSPORT	Saydabad-Motbaria	2	400	30	1
32	PARJOTOK	Dhaka (Saidabad)- Khulna, Via-Mawa, Bhanga, Gopalganj.	4	194	30	1
33	PARJOTOK	Dhaka (Saidabad)- Pirojpur , Via-Mawa, Bhanga, Gopalganj, Bagerhat.	4	223	30	1
34	PARJOTOK	Dhaka (Saidabad)- Satkhira, Via-Mawa, Bhanga, Gopalganj, Khulna.	2	250	30	1
35	PARJOTOK	Saydabad-Mongla	6	220	35	1
36	PARJOTOK	Saydabad-Rayenda	2	250	30	1
37	PARJOTOK	Saydabad-Rampal	2	200	30	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
38	HAMIM	Dhaka (Saidabad)- Pirojpur , Via-Mawa,Bhanga, Gopalganj,Bagerhat.	4	223	30	1
39	HAMIM	Saydabad-Borguna	2	340	30	1
40	HAMIM	Saydabad-Lohagora	1	300	25	1
41	HAMIM	Saydabad-Bagharhat	4	230	35	1
42	MEGHNA TRAVELS	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	6	194	30	1
43	MEGHNA TRAVELS	Dhaka (Saidabad)- Patuakhali, Via-Mawa,Bhanga , Barisal.	12	192	25	1
44	MEGHNA TRAVELS	Dhaka (Saidabad)- Pirojpur , Via-Mawa,Bhanga, Gopalganj,Bagerhat.	2	223	30	1
45	MEGHNA TRAVELS	Saydabad-Borguna	4	350	30	1
46	GRAMEEN SERVICE	Dhaka (Saidabad)- Pirojpur , Via-Mawa,Bhanga, Gopalganj,Bagerhat.	4	223	30	1
47	GRAMEEN SERVICE	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	4	194	32	1
48	GRAMEEN SERVICE	Dhaka (Saidabad)- Patuakhali, Via-Mawa,Bhanga , Barisal.	3	192	30	1
49	RUPALI BANGLA	Dhaka (Saidabad)- Biani Bazar , Via-Narsingdi,Bhairab,Madhhabpur, Moulavibazar,Rajnagar.	6	286	30	1
50	SUGANDHA	Dhaka (Saidabad)- Barisal , Via-Mawa ,Bhanga, Madaripur.	8	156	45	2
51	MEGNA TRAVELS	Dhaka (Saidabad)- Barisal , Via-Mawa ,Bhanga, Madaripur.	8	156	45	2
52	AZMERI PORIBOHAN	Dhaka (Saidabad)- Patuakhali, Via-Mawa,Bhanga , Barisal.	1	192	22	2
53	BAPARI PORIBOHAN	Saydabad-Kuwakata	1	320	35	2
54	BAPARI PORIBOHAN	Dhaka (Saidabad)- Barisal , Via-Mawa ,Bhanga, Madaripur.	2	156	35	2
55	SARBIK PORIBOHAN	Dhaka (Saidabad)- Barisal , Via-Mawa ,Bhanga, Madaripur.	3	99	15	2
56	KUWAKATA EXPRESS	Saydabad-Kuwakata	2	450	26	1
57	FALGUNI PORIBOHAN	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	4	194	30	2
58	SOMUDRO SOIKOT PORI	Saydabad-Kuwakata	2	395	20	1
59	BOLESSOR PORIBOHAN	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	3	194	27	2
60	MOHONA	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	1	194	25	2
61	NEW ANTORA CLASSIC	Dhaka (Saidabad)- Barisal , Via-Mawa ,Bhanga, Madaripur.	3	156	40	2
62	ROYEL MONOHARDI	Dhaka (Saidabad)- Manahardi, Via-Narsingdi.	46	84	15	4
63	AHMED PORIBOHAN	Dhaka (Saidabad)- Jaflong , Via-Narsingdi,Bhairab,B- Baria, Moulavibazar,Sylhet .	2	319.5	30	2
64	LIMON PORIBOHAN	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	2	307	30	2
65	J.B TRAVELS	Dhaka (Saidabad)- Chhatak , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	6	275	40	2
66	AL-SHAMIM EXPRESS	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	1	307	25	2
67	BILASH PORIBOHAN	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	1	307	25	2
68	SAKIN PORIBOHAN	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	1	307	25	2
69	NEW SAMMI	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	1	307	24	2
70	BORISAL EXPRESS	Saydabad-Pathorkata	2	350	35	2
71	SHAKUR PORIBOHAN	Saydabad-Kuwakata	2	325	35	2
72	SHYAMOLI	Dhaka (Saidabad)- Cox`s Bazar, Via-Comilla,Feni,Chittagong.	25	396	25	1
73	SHYAMOLI	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	40	242	25	1
74	SHYAMOLI	Dhaka (Saidabad)- Kaptai , Via-Comilla,Feni, Cahittagong	3	286	25	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
75	SHYAMOLI	Dhaka (Saidabad)- Bandarban, Via-Comilla,Feni,Chittagong	4	318	25	1
76	SHYAMOLI	Dhaka (Saidabad)- Khagrachhari, Via-Comilla,Feni,Chittagong, Ramgarh.	2	276	25	1
77	SHYAMOLI	Dhaka (Saidabad)- Rangamati, Via-Comilla,Feni,Chittagong.	2	307	25	1
78	SHYAMOLI	Dhaka (Saidabad)- Teknaf, Via-Comilla,Feni,Cox's Bazar.	2	462	25	1
79	SHYAMOLI	Saydabad-Fotikchori	2	280	25	1
80	SHYAMOLI	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	13	257	25	1
81	SHYAMOLI	Dhaka (Saidabad)- Chhatak , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	2	275	25	1
82	SHYAMOLI	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	5	307	25	1
83	SHYAMOLI	Dhaka (Saidabad)- Biani Bazar , Via-Narsingdi,Bhairab, Madhabpur, Moulavibazar, Rajnagar.	5	286	25	1
84	SHYAMOLI	Saydabad-Diroy	1	200	30	1
85	HANIF ENTERPRISE	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	100	242	30	1
86	HANIF ENTERPRISE	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	12	396	30	1
87	HANIF ENTERPRISE	Dhaka (Saidabad)- Khagrachhari, Via-Comilla,Feni,Chittagong, Ramgarh.	2	276	30	1
88	HANIF ENTERPRISE	Dhaka (Saidabad)- Bandarban, Via-Comilla,Feni,Chittagong	2	318	30	1
89	HANIF ENTERPRISE	Dhaka (Saidabad)- Rangamati, Via-Comilla,Feni,Chittagong.	2	307	30	1
90	HANIF ENTERPRISE	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	35	257	30	2
91	HANIF ENTERPRISE	Dhaka (Saidabad)- Teknaf, Via-Comilla,Feni,Cox's Bazar.	2	462	25	1
92	HANIF ENTERPRISE	Saydabad-Rawjan	1	280	30	2
93	HANIF ENTERPRISE	Saydabad-Najirhat	2	280	30	2
94	HANIF ENTERPRISE	Saydabad-Dohazari	1	280	30	2
95	HANIF ENTERPRISE	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	2	307	30	1
96	SHYAMOLI(SP)	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	18	257	28	2
97	SHYAMOLI(SP)	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	6	307	28	2
98	SHYAMOLI(SP)	Dhaka (Saidabad)- Chhatak , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	2	275	25	2
99	SHYAMOLI(SP)	Dhaka (Saidabad)- Biani Bazar , Via-Narsingdi,Bhairab, Madhabpur, Moulavibazar, Rajnagar.	4	286	30	2
100	SHYAMOLI(SP)	Dhaka (Saidabad)- Moulavibazar, Via-Narsingdi,Bhairab, Madhabpur.	4	203	30	2
101	SHYAMOLI(SP)	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	35	242	30	2
102	SHYAMOLI(SP)	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	15	296	30	2
103	SHYAMOLI(SP)	Dhaka (Saidabad)- Teknaf, Via-Comilla,Feni,Cox's Bazar.	4	462	30	1
104	SHYAMOLI(SP)	Dhaka (Saidabad)- Bandarban, Via-Comilla,Feni,Chittagong	4	318	30	2
105	SHYAMOLI(SP)	Saydabad-Fotikchori	2	280	30	2
106	SHYAMOLI(SP)	Dhaka (Saidabad)- Kaptai , Via-Comilla,Feni, Chittagong	4	286	25	2
107	SHYAMOLI(SP)	Dhaka (Saidabad)- Rangamati, Via-Comilla,Feni,Chittagong.	4	307	30	2
108	SHYAMOLI(SP)	Dhaka (Saidabad)- Khagrachhari, Via-Comilla,Feni,Chittagong, Ramgarh.	2	276	25	2
109	MAMUN ENTERPRISE	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	7	307	25	1
110	MAMUN ENTERPRISE	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	7	257	25	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
111	MAMUN ENTERPRISE	Saydabad-Diroy	1	200	25	1
112	MAMUN ENTERPRISE	Saydabad-Moheshpur	1	250	30	1
113	MAMUN ENTERPRISE	Dhaka (Saidabad)- Sunamganj , Via-Narsingdi,Bhairab, Moulavibazar, Sylhet.	8	307	30	1
114	MAMUN ENTERPRISE	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	2	194	30	1
115	MAMUN ENTERPRISE	Dhaka (Saidabad)- Kustia	2	400	30	1
116	MAMUN ENTERPRISE	Dhaka (Saidabad)- Jessore	2	280	25	2
117	MAMUN ENTERPRISE	Dhaka (Saidabad)- Satkhira, Via-Mawa,Bhanga ,Gopalganj,Khulna.	2	250	25	1
118	MAMUN ENTERPRISE	Dhaka (Saidabad)- Bogra	1	200	25	2
119	MAMUN ENTERPRISE	Dhaka (Saidabad)- Sirajganj	1	120	25	2
120	MAMUN ENTERPRISE	Dhaka (Saidabad)- Chowgacha	1	230	25	2
121	AL-MOBARAKA	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	20	257	25	2
122	AL-MOBARAKA	Saydabad-Mohespur	1	250	25	2
123	EKUSHE EXPRESS	Dhaka (Saidabad)- Sonapur , Via- Comilla, Laksham,Chowmohani, Majidi	45	195	35	2
124	EKUSHE EXPRESS	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	10	396	35	1
125	SHEBA GREEN LINE	Dhaka (Saidabad)- Pirojpur , Via-Mawa,Bhanga, Gopalganj,Bagerhat.	12	223	30	2
126	SHEBA GREEN LINE	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	8	194	30	2
127	SHADHIN BANGLA	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	2	242	35	1
128	TONGI PARA	Dhaka (Saidabad)- Pirojpur , Via-Mawa,Bhanga, Gopalganj,Bagerhat.	30	223	30	1
129	TONGI PARA	Saydabad-Nazirpur	3	230	30	1
130	TONGI PARA	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	10	194	35	1
131	DHAKA EXPRESS	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmohani, Lakshmipur.	18	194	30	2
132	K.K SHEBA	Dhaka (Saidabad)- Kankirhat, Via-Comilla, Feni.	6	176	30	2
133	K.K SHEBA	Dhaka (Saidabad)- Basurhat , Via-Comilla, Feni, Majidi.	7	216	30	2
134	K.K SHEBA	Saydabad-Jamidurhat	4	230	30	2
135	SHOHAGH	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	5	176	16	2
136	SHOHAGH	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	2	396	20	1
137	SHOHAGH	Dhaka (Saidabad)- B- Baria , Via-Narsingdi, Bhairab.	16	103	18	2
138	SOUDIA	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	20	176	25	2
139	SOUDIA	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	20	396	25	1
140	SOUDIA	Dhaka (Saidabad)- Teknaf, Via-Comilla,Feni,Cox's Bazar.	4	480	25	1
141	SOUDIA	Saydabad-Fotikchori	4	280	25	2
142	SOUDIA	Dhaka (Saidabad)- Bandarban, Via-Comilla,Feni,Chittagong	2	318	25	2
143	SOUDIA	Dhaka (Saidabad)- Khagrachhari, Via-Comilla,Feni,Chittagong, Ramgarh.	2	276	25	2
144	SOUDIA	Dhaka (Saidabad)- Kaptai , Via-Comilla,Feni, Cahittagong	2	284	25	2
145	MODERN	Dhaka (Saidabad)- Habiganj, Via-Narsingdi,Bhairab, Madhabpur.	9	166	20	2
146	AGRODUT	Dhaka (Saidabad)- Habiganj, Via-Narsingdi,Bhairab, Madhabpur.	6	166	20	2
147	NILACOL	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmohani, Lakshmipur.	5	194	40	2
148	TISHA EXCLUSIVE	Dhaka (Saidabad)- Hajiganj , Via- Comilla.	50	138	30	2

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
149	PADMA	Dhaka (Saidabad)- Chandpur , Via-Comilla, Hajiganj.	30	157	30	2
150	JANANI SERVICE	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmohani, Lakshmipur.	30	194	25	2
151	ANANDO PORIBOHAN	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	3	396	25	1
152	KMAA PORIBOHAN	Dhaka (Saidabad)- Sylhet , Via-Narsingdi, Bhairab, Moulavibazar.	2	257	20	2
153	LACKY EXPRESS	Dhaka (Saidabad)- Habiganj, Via-Narsingdi, Bhairab, Madhabpur.	1	166	30	2
154	LACKY EXPRESS	Saydabad-Baniachang	1	240	35	2
155	LACKY EXPRESS	Saydabad-Lokhain	1	200	30	2
156	HIMACHOL EXPRESS	Dhaka (Saidabad)- Lakshmipur , Via-Comilla, Laksham, Chowmohani .	2	177	35	2
157	HIMACHOL EXPRESS	Dhaka (Saidabad)- Sonapur , Via- Comilla, Laksham, Chowmohani, Majidi	40	195	35	2
158	S. ALAM	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	30	242	30	2
159	S. ALAM	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	5	396	30	1
160	S. ALAM	Dhaka (Saidabad)- Bandarban, Via-Comilla, Feni, Chittagong	2	316	30	2
161	S. ALAM	Dhaka (Saidabad)- Rangamati, Via-Comilla, Feni, Chittagong.	2	307	30	2
162	S. ALAM	Dhaka (Saidabad)- Khagrachhari, Via-Comilla, Feni, Chittagong, Ramgarh.	4	276	30	2
163	S. ALAM	Saydabad-Nazirpur	2	220	30	2
164	S. ALAM	Dhaka (Saidabad)- Kaptai , Via-Comilla, Feni, Cahittagong	2	286	30	2
165	S. ALAM	Saydabad-Kolkata (India)	1	420	30	1
166	DREAM LINE	Dhaka (Saidabad)- Basurhat , Via-Comilla, Feni, Majidi.	25	216	30	2
167	YEAR-71	Dhaka (Saidabad)- Teknaf, Via-Comilla, Feni, Cox's Bazar.	10	462	30	1
168	EAGLE PORIBOHAN	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	10	242	20	2
169	EAGLE PORIBOHAN	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	8	396	20	1
170	EAGLE PORIBOHAN	Dhaka (Saidabad)- Bandarban, Via-Comilla, Feni, Chittagong	1	318	30	2
171	EAGLE PORIBOHAN	Dhaka (Saidabad)- Kaptai , Via-Comilla, Feni, Cahittagong	1	286	25	2
172	EAGLE PORIBOHAN	Dhaka (Saidabad)- Khagrachhari, Via-Comilla, Feni, Chittagong, Ramgarh.	2	276	25	2
173	ILISH	Dhaka-Borguna	2	255	35	1
174	UNIQUE SERVICE	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	40	242	20	2
175	UNIQUE SERVICE	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	6	396	30	1
176	UNIQUE SERVICE	Dhaka (Saidabad)- Sylhet , Via-Narsingdi, Bhairab, Moulavibazar.	30	257	20	2
177	UNIQUE SERVICE	Dhaka (Saidabad)- Rangamati, Via-Comilla, Feni, Chittagong.	2	307	25	2
178	UNIQUE SERVICE	Dhaka (Saidabad)- Bandarban, Via-Comilla, Feni, Chittagong	2	318	25	2
179	JATAYAT	Dhaka (Saidabad)- Kishoreganj, Via-Narsingdi, Bhairab.	38	140	15	2
180	ENA	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	24	242	20	2
181	ENA	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	24	396	20	1
182	ENA	Dhaka (Saidabad)- Sylhet , Via-Narsingdi, Bhairab, Moulavibazar.	24	257	20	2
183	ENA	Dhaka (Saidabad)- Sonagazi , Via-Comilla, Feni.	24	168	20	2
184	SHANTI PORIBOHAN	Dhaka (Saidabad)- Khagrachhari, Via-Comilla, Feni, Chittagong, Ramgarh.	16	276	20	2
185	SHANTI PORIBOHAN	Dhaka (Saidabad)- Chittagong, Via-Comilla, Feni.	10	242	36	2
186	SHANTI PORIBOHAN	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla, Feni, Chittagong.	15	396	36	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
187	RAFIN-SAFIN	Saydabad-Taltola	1	395	25	1
188	RAFIN-SAFIN	Saydabad-Pathorkata	2	300	25	2
189	RAFIN-SAFIN	Saydabad-Rainda	2	320	25	2
190	ULLASH PORIBOHAN	Dhaka (Saidabad)- Comilla, Via-Daudkandi.	4	102	30	2
191	ULLASH PORIBOHAN	Saydabad-Kurigram	4	350	30	1
192	ULLASH PORIBOHAN	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	1	194	35	1
193	NEW EAGLE	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	3	242	22	2
194	TISHA EXCLUSIVE	Dhaka (Saidabad)- Comilla, Via-Daudkandi.	5	102	30	2
195	NEW LINE	Dhaka (Saidabad)- Sylhet , Via-Narsingdi,Bhairab, Moulavibazar.	2	257	20	2
196	EKUSHE EXPRESS	Dhaka (Saidabad)- Noakhali(Maijdi) , Via-Comilla, Feni.	65	188	30	2
197	C.D.M	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	18	242	35	2
198	MOUSUMI PORIBOHAN	Dhaka (Saidabad)- Lakshmipur , Via-Comilla, Laksham,Chowmohani .	2	177	30	2
199	JONAKI SERVICE	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmohani, Lakshmipur.	30	194	40	2
200	BISHMILLAH	Dhaka (Saidabad)- Habiganj, Via-Narsingdi,Bhairab,Madhhabpur.	2	166	25	2
201	BORISAL EXPRESS	Saydabad-Pirgacha	7	550	30	1
202	BORISAL EXPRESS	Saydabad-Pathorkata	2	350	30	2
203	SHOPNA SANTA	Saydabad-Panchagarh	1	450	25	1
204	SHOPNA SANTA	Saydabad-Dimla	1	400	25	1
205	SHOPNA SANTA	Saydabad-Bawlaganjo	1	400	25	1
206	SHOPNA SANTA	Saydabad-Laldighi	1	400	25	1
207	PANCHAGARHTRAVELS	Saydabad-Panchagarh	4	450	25	1
208	ROMAR	Saydabad-Fulbari	1	300	25	2
209	ROMAR	Saydabad-Panchagarh	1	450	25	1
210	ROMAR	Saydabad-Jaldhaka	1	400	40	1
211	ROMAR	Saydabad-Chilmari	1	385	40	1
212	ROMAR	Saydabad-Bhurungamari	1	450	40	1
213	ELISH PORIBOHAN	Saydabad-Borguna	2	350	35	2
214	ELISH PORIBOHAN	Saydabad-Mawa	54	50	50	4
215	C.D.M TRAVELS	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	110	242	35	2
216	C.D.M TRAVELS	Dhaka (Saidabad)- Cox's Bazar, Via-Comilla,Feni,Chittagong.	120	396	35	1
217	PABNA EXPRESS	Saydabad-Pabna	10	250	18	2
218	CHAPAY TRAVELS	Saydabad-Nawabganj	2	325	18	1
219	SADDAM ENTERPRISE	Saydabad-Kurigram	4	355	20	1
220	SADDAM ENTERPRISE	Saydabad-Lalmonirhat	2	340	18	2
221	WESTERN TRAVELS	Saydabad-Nawabganj	2	400	20	1
222	M.R PORIBOHAN	Dhaka (Saidabad)- Chittagong, Via-Comilla,Feni.	2	242	18	2
223	SHANA TRAVELS	Saydabad-Lal Monirhat	2	409	20	1
224	UNITED PORIBOHAN	Saydabad-Chilmari	1	385	35	1
225	UNITED PORIBOHAN	Saydabad-Gangachhara	1	340	20	2
226	UNITED PORIBOHAN	Saydabad-Bhurungamari	1	400	22	1
227	R.P .ALIGANS	Saydabad-Nawabganj	2	315	20	1
228	AHSAN ENTERPRISE	Saydabad-Baliadangi	5	450	20	1
229	AHSAN ENTERPRISE	Saydabad-Panchagarh	5	450	20	1
230	AHSAN ENTERPRISE	Saydabad-Kurigram	3	361	20	1
231	SHANTI PORIBOHAN	Saydabad-Panchagarh	1	450	20	1
232	SHANTI	Saydabad-Nilphamari	1	377	20	1

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (km)	Average No. Of Passengers	Number of daily Single Trips
	PORIBOHAN					
Total			2168	64108.5		361

3) Gabtoli

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
1	EGALE PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	16	272	30	1
2	EGALE PORIBOHAN	Gobtoli-Paikgacha	2	272	30	1
3	EGALE PORIBOHAN	Dhaka(Gabtoli)- Narail, Via- Patoria, Faridpur, Magura, Arrpara, Jessore.	4	236	30	1
4	EGALE PORIBOHAN	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	8	320	30	1
5	EGALE PORIBOHAN	Dhaka(Gabtoli)- Benapole, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	8	250	30	1
6	EGALE PORIBOHAN	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	20	242	30	1
7	EGALE PORIBOHAN	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	2	304	30	1
8	EGALE PORIBOHAN	Dhaka-Vandhuri	5	201	30	1
9	EGALE PORIBOHAN	Dhaka-Kuakata	2	339	25	1
10	EGALE PORIBOHAN	Dhaka-Chittagong	22	248	25	1
12	SAKURA PORIBOHAN	Dhaka-Sorupkathi	2	246	30	2
13	SAKURA PORIBOHAN	Dhaka(Gabtoli)- Jhalokathi, Via- Paturia, Faridpur, Madaripur, Barisal.	2	258	30	2
14	SAKURA PORIBOHAN	Dhaka-Mothbaria	2	295	30	2
15	SAKURA PORIBOHAN	Dhaka(Gabtoli)- Pirojpur, Via- Paturia, Faridpur, Barisal, Jhalokati .	2	284	30	2
16	SAKURA PORIBOHAN	Dhaka-Pathorghata	2	178	30	2
17	SAKURA PORIBOHAN	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	4	304	30	2
18	SAKURA PORIBOHAN	Dhaka-Kuakata	3	339	30	2
19	SAKURA PORIBOHAN	Dhaka-Vakutia	2	184	30	2
20	SAKURA PORIBOHAN	Dhaka-Potuakhali	2	278	30	2
21	SAKURA PORIBOHAN	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	5	242	30	2
22	SAKURA PORIBOHAN	Dhaka-Taholi	2	239	30	2
23	SUBORNO PORIBOHAN	Dhaka(Gabtoli)- Gopalganj, Via- Paturia, Faridpur, Muksudpur. .	2	204	35	2
24	SUBORNO PORIBOHAN	Dhaka-Kotali para	1	186	35	2
25	SUBORNO PORIBOHAN	Dhaka-Vanga	1	230	35	2
26	SUBORNO PORIBOHAN	Dhaka-Narua	1	118	35	2
27	SUBORNO PORIBOHAN	Dhaka-Kumarkhali	2	158	35	2
28	SUBORNO PORIBOHAN	Dhaka(Gabtoli)- Faridpur, Via- Paturia.	1	209	35	2
29	RAJBARI PORIBOHAN	Dhaka-Pangsha	4	122	35	2
30	BANGLA TRAVEL	Dhaka(Gabtoli)- Narail, Via- Patoria, Faridpur, Magura, Arrpara, Jessore.	3	236	35	1
31	K. LINE	Dhaka-Shamnagor	2	370	30	1
32	K. LINE	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	9	320	30	1
33	GREEN BANGLA PORI	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	3	320	40	2
34	GREEN BANGLA PORI	Dhaka-Shamnagor	2	272	40	2
35	H.R.TRAVEL	Dhaka(Gabtoli)- Satkhira, Via- Paturia,	5	320	30	2

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
		Faridpur, Magura,Arrpara,Jessore, Khulna.				
36	H.R. TRAVEL	Dhaka-Paigacha	2	272	30	2
37	KINGS PORIBOHAN	Dhaka(Gabtoli) -Pabna , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu .	6	223	30	2
38	SURJO MUKHI	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	5	242	35	2
39	SURJO MUKHI	Dhaka(Gabtoli)- Faridpur, Via- Paturia.	1	109	40	2
40	SURJO MUKHI	Dhaka(Gabtoli)- Alfadanga, Via- Paturia, Faridpur	10	158	40	2
41	A.K TRAVEL	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	12	272	30	2
42	A.K TRAVEL	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura,Arrpara,Jessore, Khulna.	12	320	28	2
43	A.K TRAVEL	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	2	250	28	2
44	A.K TRAVEL	Dhaka(Gabtoli)- Narail, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	2	236	30	2
45	A.K TRAVEL	Dhaka-Paigacha	2	272	30	2
46	M.M.PORIBOHAN	Dhaka(Gabtoli)- Magura, Via- Paturia, Faridpur.	2	156	30	2
47	M.M.PORIBOHAN	Dhaka-Kumarkhali	2	145	28	2
48	DARSONA DELUX	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura,Jhenaidah.	8	206	30	2
49	ISHORDI EXPRESS	Dhaka(Gabtoli)- Ishwardi, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Pabna.	6	217	30	2
50	J.R PORIBOHAN	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura,Jhenaidah.	8	206	35	2
51	J.R PORIBOHAN	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura,Jhenaidah, Chuadanga.	14	249	30	2
52	J.R PORIBOHAN	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura,Jhenaidah.	11	230	30	2
53	SARBIK PORIBOHAN	Dhaka-Madaripur	30	177	35	2
54	SARBIK PORIBOHAN	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	8	242	35	2
55	SONAR TORY	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	2	304	27	2
56	SONAR TORY	Dhaka-Mathbaria	2	295	25	2
57	SONAR TORY	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	2	242	25	2
58	SONAR TORY	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura,Jhenaidah.	5	206	30	2
59	J.LINE	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura,Jhenaidah.	4	206	25	2
60	J.LINE	Dhaka-Chowgacha	6	215	25	2
61	GOLDEN LINE	Dhaka-Faridpur	60	109	35	2
62	GOLDEN LINE	Dhaka(Gabtoli) - Gopalganj, Via- Paturia, Faridpur, Muksudpur. .	16	204	40	2
63	GOLDEN LINE	Dhaka-Kuakata	2	350	30	2
64	GOLDEN LINE	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	2	304	30	2
65	GOLDEN LINE	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	4	242	30	2
66	GOLDEN LINE	Dhaka(Gabtoli) - Pirojpur, Via- Paturia, Faridpur, Barisal, Jhalokati .	2	284	30	2
67	SUMON DELUX	Dhaka-Chowgacha	3	215	30	2
68	SUMON DELUX	Dhaka(Gabtoli)- Chuadanga, Via- Paturia, Faridpur, Magura, Jhinaidah.	5	216	30	2
69	SUMON DELUX	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura, Jhenaidah.	3	230	30	2
70	SOUTH LINE	Dhaka-Modhukhali	2	122	30	2
71	SOUTH LINE	Dhaka-Nagurkanda	2	135	30	2
72	SOUTH LINE	Dhaka-Moinda	2	107	30	2
73	SOUTH LINE	Dhaka-Vatiapara	2	217	30	2
74	SOUTH LINE	Dhaka(Gabtoli)- Faridpur, Via- Paturia.	17	110	30	2
75	COMFOT LINE	Dhaka(Gabtoli) - Pirojpur, Via- Paturia, Faridpur, Barisal, Jhalokati .	4	284	35	2
76	COMFOT LINE	Dhaka-Katalipara	2	186	35	2
77	COMFOT LINE	Dhaka-Kalia	2	232	35	2
78	COMFOT LINE	Dhaka-Najirpur	11	295	35	2
79	ROYEL EXPRESS	Dhaka-Chowgacha	2	215	30	2

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
80	ROYEL EXPRESS	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura,Jhenaidah.	10	206	30	2
81	ROYEL EXPRESS	Dhaka(Gabtoli)- Chuadanga, Via- Paturia, Faridpur,Magura,Jhenaidah.	16	216	30	2
82	ROYEL EXPRESS	Dhaka-Chittagong, Via- Comilla,Feni.	2	262	25	2
83	RABEYA PORIBOHAN	Dhaka-Kumarkhali	10	158	30	2
84	RAJDHUNI EXPRESS	Dhaka-Najirpur	10	260	35	2
85	SHOUHARDO PORIBOHAN	Dhaka-Miregebazar	3	139	35	2
86	SHOUHARDO PORIBOHAN	Dhaka-Naduriaghat	3	149	35	2
87	SHOUHARDO PORIBOHAN	Dhaka-Shengrum	4	167	30	2
88	SHOUHARDO PORIBOHAN	Dhaka-Khulumbari	1	170	30	2
89	SHOUHARDO PORIBOHAN	Dhaka-Narua bazar	1	118	30	2
90	KING FISER TRAVEL	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura,Arrpara,Jessore, Khulna.	4	320	35	2
91	KING FISER TRAVEL	Dhaka-Paikgacha	4	272	35	2
92	SANGRAM PORIBOHAN	Dhaka-Samnagar	5	380	32	1
93	ALAMENTERPRISE	Dhaka(Gabtoli)-Ranisankail, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	3	430	45	1
94	ALAMENTERPRISE	Dhaka(Gabtoli)- Panchagarh, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	3	424	45	1
95	TUHIN ELITE	Dhaka(Gabtoli)-Nawabganj , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	15	293	20	2
96	TUHIN ELITE	Dhaka(Gabtoli)-Nawabganj , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	2	330	20	2
97	TUHIN ELITE	Dhaka(Gabtoli)-Rajshahi , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore.	5	247	20	2
98	TUHIN ELITE	Dhaka-Rohanpur	2	324	20	2
99	GRAMEEN TRAVEL	Dhaka-Kansat	4	330	25	2
100	GRAMEEN TRAVEL	Dhaka-Rohanpur	2	324	25	2
101	GRAMEEN TRAVEL	Dhaka(Gabtoli)-Rajshahi , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore.	1	247	25	2
102	GRAMEEN TRAVEL	Dhaka(Gabtoli)-Nawabganj , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	20	293	25	2
103	RAHOBAR ENTERPRISE	Dhaka(Gabtoli)-Ranisankail, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	6	450	30	1
104	MAMUN ENTERPRISE	Dhaka-Shamnagar	5	380	30	1
105	MAMUN ENTERPRISE	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura,Arrpara,Jessore, Khulna.	1	320	30	1
106	MAMUN ENTERPRISE	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	1	272	30	1
107	MAMUN ENTERPRISE	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	1	250	30	1
108	MAMUN ENTERPRISE	Dhaka-Jibonnagar	2	250	30	1
109	MAMUN ENTERPRISE	Dhaka-Meheshpur	2	230	30	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
110	MAMUN ENTERPRISE	Dhaka-Chowgacha	1	240	30	1
111	RUPA	Dhaka(Gabtoli)- Dinajpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Ghoraghat.	4	330	40	1
112	RUPA	Dhaka-Ranisankail	4	450	40	1
113	RUPA	Dhaka(Gabtoli)- Gaibandha , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Palashbari.	6	268	40	2
114	RUPA	Dhaka-Rohanpur	4	335	40	1
115	MEHERPUR DELUX	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga.	3	249	32	2
116	ZAKER ENTERPRISE	Dhaka(Gabtoli)- Alfadanga, Via- Paturia, Faridpur	5	158	35	2
117	ZAKER ENTERPRISE	Dhaka-Kotali para	2	220	35	2
118	ZAKER ENTERPRISE	Dhaka-Vatia para	1	180	35	2
119	ZAKER ENTERPRISE	Dhaka(Gabtoli)- Faridpur, Via- Paturia.	2	110	35	2
120	ZAKER ENTERPRISE	Dhaka(Gabtoli)- Gopalganj, Via- Paturia, Faridpur, Muksudpur. .	1	204	35	2
121	ZAKER ENTERPRISE	Dhaka-Lahoria	3	250	35	2
122	SUNDURBAN EXPRESS	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	10	320	30	2
123	R.K EXCLUSIVE	Dhaka-Shilokupa	3	210	20	2
124	R.K EXCLUSIVE	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga.	4	249	20	2
125	KALIGANJ EXPRESS	Dhaka-Chowgacha	3	240	30	1
126	KALIGANJ EXPRESS	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	2	206	30	1
127	KALIGANJ EXPRESS	Dhaka(Gabtoli)-Kaliganj	2	192	30	1
128	R.M.TRAVEL	Dhaka-Shamnagor	2	380	30	1
129	SHOUKHIN PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	7	272	30	2
130	SHOUKHIN PORIBOHAN	Dhaka-Paikgacha	2	290	30	2
131	SHOUKHIN PORIBOHAN	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	2	250	30	2
132	SHOUKHIN PORIBOHAN	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	2	320	30	1
133	SONALI PORIBAHAN	Dhaka-Chowgacha	5	230	30	2
134	SONALI PORIBAHAN	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	3	206	30	2
135	SONALI PORIBAHAN	Dhaka-Shamanta	5	250	30	2
136	S.P.GOLDEN LINE	Dhaka-Shamnagor	4	380	30	1
137	S.P.GOLDEN LINE	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	7	320	30	2
138	FATEMA SPECIAL	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura, Jhenaidah.	6	230	30	2
139	SOHELI PORIBOHAN	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	1	206	45	1
140	SOHELI PORIBOHAN	Dhaka-Chowgacha	1	230	45	1
141	CITRA PORIBOHAN	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	1	206	30	1
142	DURUTI PORIBOHAN	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	3	320	35	1
143	DURUTI PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	4	292	35	1
144	KOHINUR PORIBOHAN	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	1	206	25	2
145	KOHINUR PORIBOHAN	Dhaka-Chowgacha	1	220	25	2
146	SATKHIRA EXPRESS	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	10	320	25	2
147	ALPHA LINE	Dhaka (Mohakhali) - Sarishabari,	5	240	30	2

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
		Via-Tangail.				
148	RAJONI GONDHA	Dhaka(Gabtoli) -Rajshahi , Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore.	6	247	30	1
149	DIGANTO PORIBOHAN	Dhaka(Gabtoli)- Bagerhat, Via- Paturia, Faridpur, Magura,Arrpara,Jessore, Khulna.	4	310	35	1
150	DIGANTO PORIBOHAN	Dhaka(Gabtoli)- Mongla , Via- Paturia, Faridpur,Magura,Arrapara,Jessore,Khulna .	2	300	40	1
151	DIGANTO PORIBOHAN	Dhaka(Gabtoli) - Pirojpur, Via- Paturia, Faridpur,Barisal,Jhalokati .	2	284	35	1
152	DIGANTO PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	2	272	35	1
153	DIGANTO PORIBOHAN	Dhaka-Kotalipara	9	230	40	1
154	DIGANTO PORIBOHAN	Dhaka-Kalia	3	250	40	1
155	SUMON DELUX	Dhaka-Chowgacha	4	230	30	2
156	SUMON DELUX	Dhaka-Alfadanga	2	240	30	2
157	SUMON DELUX	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura,Jhenaidah.	2	230	30	2
158	NATIONAL TRAVESL	Dhaka(Gabtoli)-Nawabganj , Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	3	293	30	1
159	NATIONAL TRAVESL	Dhaka(Gabtoli) -Rajshahi , Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore.	20	247	35	2
160	SONY SUPER	Dhaka(Gabtoli)- Ishwardi, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Pabna.	7	217	35	2
161	SALMA ENTERPRISE	Dhaka(Gabtoli)- Dinajpur, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	2	330	35	2
162	SALMA ENTERPRISE	Dhaka(Gabtoli)- Hili, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Joypurhat.	2	268	35	2
163	SALMA ENTERPRISE	Dhaka-Dhamurhat	2	265	35	2
164	S.B.SUPER DELUX	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura,Jhenaidah.	2	230	25	2
165	S.B.SUPER DELUX	Dhaka-Shoulkupa	11	250	30	2
166	NABIL PORIBOHAN	Dhaka(Gabtoli)- Rangpur , Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	16	308	30	2
167	NABIL PORIBOHAN	Dhaka(Gabtoli)- Dinajpur, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	15	330	30	2
168	NABIL PORIBOHAN	Dhaka-Shetabganj	2	360	30	1
169	NABIL PORIBOHAN	Dhaka-Ranisankail	1	390	30	1
170	NABIL PORIBOHAN	Dhaka(Gabtoli)- Panchagarh, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	6	424	30	1
171	NABIL PORIBOHAN	Dhaka(Gabtoli)- Thakurgaon, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur.	7	387	30	1
172	NABIL PORIBOHAN	Dhaka(Gabtoli)- Chilmari, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Kurigram.	4	367	30	1
173	NABIL PORIBOHAN	Dhaka-Bhurungamari	3	395	35	1
174	NABIL PORIBOHAN	Dhaka(Gabtoli)- Kurigram, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Haragachha.	1	353	30	1
175	NABIL PORIBOHAN	Dhaka-Fulbari	1	340	25	2
176	NABIL PORIBOHAN	Dhaka-Burimari	2	434	32	1
177	NABIL PORIBOHAN	Dhaka-Vowlagong	2	230	35	2
178	NABIL PORIBOHAN	Dhaka-Chilahati	3	400	30	1
179	NABIL PORIBOHAN	Dhaka(Gabtoli)-Debiganj, Via- Nabinagar,	4	377	32	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
		Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur, Saidpur.				
180	NABIL PORIBOHAN	Dhaka-Dimla	2	371	30	1
181	NABIL PORIBOHAN	Dhaka-Kisorganj-Joldhaka	2	350	30	2
182	NABIL PORIBOHAN	Dhaka(Gabtoli)-Domar, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur, Saidpur.	2	350	30	2
183	HANIF ENTERPRISE	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	5	320	25	2
184	HANIF ENTERPRISE	Dhaka(Gabtoli)- Bagerhat, Via- Paturia, Faridpur, Magura, Arrpara, Jessore, Khulna.	5	310	25	2
185	HANIF ENTERPRISE	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	35	272	25	2
186	HANIF ENTERPRISE	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	6	250	25	2
187	HANIF ENTERPRISE	Dhaka-Paikgacha	4	300	30	2
188	HANIF ENTERPRISE	Dhaka(Gabtoli)- Narail, Via- Patoria, Faridpur, Magura, Arrpara, Jessore.	4	236	30	2
189	HANIF ENTERPRISE	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	18	242	30	2
190	HANIF ENTERPRISE	Dhaka(Gabtoli)- Jhalokathi, Via- Paturia, Faridpur, Madaripur, Barisal.	4	258	30	2
191	HANIF ENTERPRISE	Dhaka-Vandhuri	3	300	30	2
192	HANIF ENTERPRISE	Dhaka-Kuakata	2	350	25	1
193	HANIF ENTERPRISE	Dhaka-Matbaria	2	320	30	2
194	HANIF ENTERPRISE	Dhaka-Amua	2	310	30	2
195	M.M.PORIBOHAN	Dhaka-Kumarkhali	5	180	30	2
196	M.M.PORIBOHAN	Dhaka-Shoulkupa	2	200	30	2
197	F.K.SUPER DELUX	Dhaka-Shoulkupa	6	200	30	2
198	PURBASHA PORIBOHAN	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	10	206	30	2
199	PURBASHA PORIBOHAN	Dhaka-Alfadanga	18	240	30	2
200	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)- Panchagarh, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Ghoraghat, Dinajpur, Thakurgaon.	5	424	20	1
201	SHYAMOLI PORIBOHAN	Dhaka-Dinajpur	7	330	20	1
202	SHYAMOLI PORIBOHAN	Dhaka-Joypurhat	6	247	20	1
203	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)- Gaibandha , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Palashbari.	5	268	20	1
204	SHYAMOLI PORIBOHAN	Dhaka-Kustia	9	151	25	2
205	SHYAMOLI PORIBOHAN	Dhaka-Naogaon	10	243	20	2
206	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)-Rajshahi , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Baraigram(Natun Rasta), Natore.	2	247	25	2
207	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)-Pabna , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu .	5	223	20	2
208	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)- Rangpur , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	5	308	20	2
209	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)- Kurigram, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Haragachha.	1	353	25	1
210	SHYAMOLI PORIBOHAN	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga.	4	249	25	1
211	RASEL ENTERPRISE	Dhaka-Chingra bazar	1	250	35	1
212	RASEL ENTERPRISE	Dhaka-Shamnagar	1	400	35	1
213	RASEL ENTERPRISE	Dhaka-Nangolbad	1	190	40	2
214	RASEL ENTERPRISE	Dhaka-Danga para	1	210	40	2
215	KHALEK	Dhaka(Gabtoli)- Kurigram, Via-	2	353	30	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
	ENTERPRISE	Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Haragachha.				
216	KHALEK ENTERPRISE	Dhaka-Burimari	2	434	30	1
217	KHALEK ENTERPRISE	Dhaka(Gabtoli)- Thakurgaon, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Ghoraghat, Dinajpur.	1	387	30	1
218	KHALEK ENTERPRISE	Dhaka(Gabtoli)- Rangpur , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	1	308	30	1
219	KHALEK ENTERPRISE	Dhaka(Gabtoli)- Saidpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur.	1	338	30	1
220	SATHI ENTERPRISE	Dhaka-Volahat	2	350	27	1
221	CENTURY TRAVEL	Dhaka-Chowgacha	4	230	30	2
222	BIKASH PORIBOHAN	Dhaka(Gabtoli) - Gopalganj, Via- Paturia, Faridpur, Muksudpur. .	5	204	35	1
223	BIKASH PORIBOHAN	Dhaka-Madaripur	3	177	35	1
224	BIKASH PORIBOHAN	Dhaka-Danga para	1	180	35	1
225	BIKASH PORIBOHAN	Dhaka-Lahuria	4	290	30	1
226	BIKASH PORIBOHAN	Dhaka(Gabtoli)- Alfadanga, Via- Paturia, Faridpur	4	158	30	2
227	MR. ENTERPRISE	Dhaka-Shamnagor	5	380	30	1
228	SHEBA GREEN LINE	Dhaka-Nazirpur	10	260	30	2
229	UTTARA PORIBOHAN	Dhaka(Gabtoli) - Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	4	206	30	1
230	C.D DELUX	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga.	7	249	30	2
231	C.D DELUX	Dhaka-Alfadanga	5	240	30	2
232	S.B.SUPER DELUX	Dhaka-Shoulkupa	15	270	30	2
233	S.B.SUPER DELUX	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga.	6	249	30	2
234	SHUVO BASHUNDHORA	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	4	272	30	1
235	SHUVO BASHUNDHORA	Dhaka-Shamnagor	2	380	30	1
236	SHUVO BASHUNDHORA	Dhaka-Jessore	8	212	30	2
237	APU CLASSIC	Dhaka-Ranir Bandar	1	332	18	1
238	SUROVI PORIBOHAN	Dhaka-Pathorghata	2	340	30	1
239	SUROVI PORIBOHAN	Dhaka-Kuakata	2	350	30	1
240	SUROVI PORIBOHAN	Dhaka-Tetulia	1	320	30	1
241	SUROVI PORIBOHAN	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	2	304	30	1
242	SUROVI PORIBOHAN	Dhaka-Bhandaria	1	290	25	1
243	ANANDO PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura, Arrpara, Jessore.	6	272	35	2
244	ANANDO PORIBOHAN	Dhaka-Paikgacha	4	300	35	2
245	ANANDO PORIBOHAN	Dhaka-Alfadanga	2	250	40	2
246	SKY LINE	Dhaka-Shoulkupa	4	250	30	2
247	ASAD PORIBAHON	Dhaka(Gabtoli)- Dinajpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Ghoraghat.	4	330	30	2
248	ASAD PORIBAHON	Dhaka(Gabtoli)- Hili, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Joypurhat.	4	268	30	2
249	HIMEL PORIBOHAN	Dhaka(Gabtoli)- Thakurgaon, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Ghoraghat, Dinajpur.	1	387	40	1
250	HIMEL PORIBOHAN	Dhaka(Gabtoli)- Kurigram, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur,	1	353	40	1

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL. No.	Company Name	Route	No. of vehicle/ fleet for the route	Route Length (KM)	Average No. Of Passengers	Number of daily Single Trips
		Haragachha.				
251	HAQ SPECIAL	Dhaka(Gabtoli)- Kurigram, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Haragachha.	4	353	30	1
252	R.B.TRAVEL	Dhaka-Nougamanda	3	230	35	2
253	R.B.TRAVEL	Dhaka-Fulbari	2	340	35	2
254	R.B.TRAVEL	Dhaka-Bhurungamari	5	395	35	1
255	R.B.TRAVEL	Dhaka(Gabtoli)- Dinajpur, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	2	330	35	2
256	ROJINA	Dhaka(Gabtoli)- Panchagarh, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	2	424	30	1
257	ROJINA	Dhaka(Gabtoli)-Debiganj, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Rangpur,Saidpur.	2	377	30	1
258	ROJINA	Dhaka-Burimari	2	434	30	1
259	ROJINA	Dhaka(Gabtoli)- Dinajpur, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	4	330	30	1
260	ROJINA	Dhaka-Lakmoroth	2	420	25	1
261	ROJINA	Dhaka(Gabtoli)-Ranisankail, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	4	390	25	1
262	ROJINA	Dhaka-Kumarkhali	6	170	30	2
263	SHOHAGH PORIBOHAN	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	12	272	30	1
264	SHOHAGH PORIBOHAN	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura,Arrpara,Jessore.	13	250	30	1
265	SHOHAGH PORIBOHAN	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	6	350	30	1
266	SHOHAGH PORIBOHAN	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura,Arrpara,Jessore, Khulna.	1	320	30	1
267	MIM PORIBOHAN	Dhaka(Gabtoli)- Dinajpur, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	4	330	35	1
268	MIM PORIBOHAN	Dhaka(Gabtoli)-Ranisankail, Via-Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	2	390	35	1
269	MIM PORIBOHAN	Dhaka(Gabtoli)-Dimla, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Rangpur,Saidpur.	2	371	35	1
270	MIM PORIBOHAN	Dhaka-Debiganj	2	377	35	1
271	MIM PORIBOHAN	Dhaka(Gabtoli)- Saidpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Rangpur.	2	338	35	2

4) Sadarghat

Launch Company Name	Launch Name	Route
Feari Shipping Line	TASRIF-2	Dhaka-Barisal
	TASRIF-3	Dhaka-Barisal
	TASRIF-4	Dhaka-Barisal
Faruk Shipping Line	M.V KALAM KHAN-1	Dhaka-Barisal
	M.V SATTAR KHAN-1	Dhaka-Patuakhali
	M.V MOSIRON KHAN-1	Dhaka-Kalaia
	M.V NAZMA KHAN	Dhaka-Barguna
Surovi Navigation	M.V SUROVI-7	Dhaka-Barisal
	M.V SUROVI-8	Dhaka-Barisal
	M.V SUROVI-9	Dhaka-Barisal
Begum Transport	M.V A R JAN-1	Dhaka-Boga-Patuakhali
	M.V DIPRAJ-2	Dhaka-Boga-Patuakhali
	M.V DIPRAJ-4	Dhaka-Madaripur
	M.V ONNO TOMA-1	Dhaka-Madaripur
Prova Shipping Line	M.V MANIK-3	Dhaka-Dulachor Via Mohanpur
	M.V MANIK-8	Dhaka-Dulachor
	M.V MANIK-5	Dhaka-Muladi Via Shoula
	M.V MANIK-9	Dhaka-Ghosherhat Via Nazirpur
M K Shipping Line	M.V MOUSHUMI	Dhaka-Betagi-Bamna-Fuljhuri-Kakchira-Barguna
	M.V PUBALI-1	Dhaka-Betagi-Bamna-Fuljhuri-Kakchira-Barguna
	M.V SUNDORBAN-2	Dhaka-Betagi-Bamna-Fuljhuri-Kakchira-Barguna
	M.V SUNDORBAN-5	Dhaka-Betagi-Bamna-Fuljhuri-Kakchira-Barguna
Fardin Shipping Line	M.V RAJDUT-7	Dhaka-Hularhat-Bhandaria
Shattar Shipping Line	MV ASHA JAOA-2	Dhaka-Boga-Patuakhali-Galachipa
Gazi River Transport	MV GAZI SALAHUDDIN	Dhaka-Borhanuddin-Vaia-Dhulia
Farhan Navigation & Habiba Navigation	MV TIPU-2	Dhaka-Daulatkha
	MV FARHAN-1	Dhaka-Daulatkha
	MV FARHAN-3,4	Dhaka-Hatia
	MV PANAMA	Dhaka-Masterhat
	M.V Tipu-5	Dhaka-Hajirhat
	MV FARHAN-5,6	Dhaka-Betua (Chorfasion)
	M.V OBHIJAN-5	Dhaka-Soula-Muladi
Tuhin Rabbi Shipping	M.V OBHIJAN-3	Dhaka-Soula-Muladi
	M.V OBHIJAN-7	Dhaka-Hulerhat-Vandaria
	M.V SHARUK	Dhaka-Ghosherhat
Sharuk Enterprise	M.V LALI	Dhaka-Letra
	M.V BALIA	Dhaka-Vhola-Dhaka
JomJom Water Transport	M.V GLORI OB SREENAGAR-7	Dhaka-Vhola
	M.V GLORI OB SREENAGAR-3	Dhaka-Lalmohan Via Nagirpur
	M.V GLORI OB SREENAGAR-2	Dhaka-Rangabali Via Kalaia
A Rahman Shipping Line	M.V OGRDUT PLUSE	Dhaka-Hularhat-Vhandaria
M.V Deshantor	M.V DESHANTOR	Dhaka-Borishal-Dhaka
Prince Water Way	M.V RIPOL	Dhaka-Chadpur
Mahabuddin Ahmed	M.V SONERTORI	Dhaka-Chadpur
	M.V SONERTORI-1	Dhaka-Chadpur
	M.V SONERTORI-2	Dhaka-Chadpur
Rana Water Transport	M.V KIRTONKHOLA-1	Dhaka-Barishal
	M.V AULAD-7	Dhaka-Barishal
	M.V PRINCE AULAD-4	Dhaka-Bhasanchor Via Hijla-Shoula
	M.V SOMRAT-2	Dhaka-Bhasanchor Via Hijla-Shoula
	M.V PRINCE AULAD-2	Dhaka-Muladi
	M.V LAMIA (DIBA)	Dhaka-Muladi
	M.V MOHARAJ-7	Dhaka-Hularhat
	M.V PRINCE AULAD	Dhaka-Demuda
	M.V KAJOL	Dhaka-Demuda
	M.V JUBORAJ-4,2	Dhaka-Barguna
	M.V NUSRAT-1	Dhaka-Barguna
	M.V KING SAMRAT-1	Dhaka-Barguna
	M.V JUBORAJ-1	Dhaka-Paisarhat
Bondhon Water Way	M.V RAJHONGSO-7,8	Dhaka-Bhasanchor
	M.V BONDHON-5	Dhaka-Kalaia
	M.V BONDHON-7	Dhaka-Borhanuddin
Shuvoraj Shipping Line	M.V KAJOL-7	Dhaka-Boga-Patuakhali
Padma Water Way	M.V PUBALI-7	Dhaka-Boga-Patuakhali-Galachipa
	M.V PUBALI-1	Dhaka-Barishal-Rayenda-Tuskhali
	M.V PUBALI-2	Dhaka-Chadpur-Poisarhat
	M.V PUBALI-4	Dhaka-Balabazar-Dulachor
Jahid Shipping Line	M.V JAMAL-5	Dhaka-Boga-Patuakhali
	M.V JAMAL-4	Dhaka-Gongapur-Borhanuddin
	M.V JAMAL-3	Dhaka-Chadpur-Ichhuli

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

Launch Company Name	Launch Name	Route
Nijam Shipping Line	Advancher-1	Dhaka-Barishal-Dhaka
Doler Shipping Line	M.V BAGERHAT-2	Dhaka-Boga-Patuakhali-Golachipa
	M.V MODERNSUN	Dhaka-Boga-Patuakhali-Golachipa
E Ali Shipping Line	M.V PRINCE OB HOSEN-1	Dhaka-Amtoli
	M.V ACHOL-2	Dhaka-Local Barisal
	M.V JOLTARANGO-1	Dhaka-Local Barisal
Salma Shipping Line	M.V KIRTONKHOLA-2	Dhaka-Barisal
Salma Water Way	M.V PARABOT-2	Dhaka-Barisal
	M.V PARABOT-9	Dhaka-Barisal
	M.V PARABOT-10	Dhaka-Barisal
	M.V PARABOT-11	Dhaka-Barisal
	M.V PARABOT-12	Dhaka-Barisal
Agorpur Navigation & Farhan Navigation	M.V PARABOT-14	Dhaka-Madaripur
	M.V TIPU-7	Dhaka-Barisal
	M.V FARHAN-8	Dhaka-Barisal
	M.V FARHAN-7	Dhaka-Jhalokhati
	M.V TIPU	Dhaka-Hulerhat-Bhandaria
	M.V TIPU-6	Dhaka-Hulerhat-Bhandaria
	M.V TIPU-12	Dhaka-Hulerhat-Bhandaria
BIWTC	M.V FARHAN	Dhaka-Hulerhat-Bhandaria
	M.V MODHUMOTI	Dhaka-Barisal-Morrelganj
	M.V BANGALI	Dhaka-Barisal-Morrelganj
	PS MASUD	Dhaka-Barisal-Morrelganj
	PS OSTRICH	Dhaka-Barisal-Morrelganj
Individual Operators	PS TURN/LAPCHA	Dhaka-Barisal-Morrelganj
	M.V NEW AL BORAK	Dhaka-Chandpur
	M.V SONERTORI	Dhaka-Chandpur
	M.V SOMPA RANI	Dhaka-Chandpur
	M.V EAGAL	Dhaka-Chandpur
	M.V ROF ROF	Dhaka-Chandpur
	M.V BOGDADIA-8	Dhaka-Chandpur
	M.V BOGDADIA-9	Dhaka-Chandpur
	M.V RASEL 3	Dhaka-Chandpur
	M.V ROF ROF 2	Dhaka-Chandpur
	M.V JAM JAM	Dhaka-Chandpur
	M.V MEGH RANI	Dhaka-Chandpur
	M.V SONERTORI-1	Dhaka-Chandpur
	M.V SONERTORI-2	Dhaka-Chandpur
	M.V BOGDADIA-7	Dhaka-Chandpur
	M.V EMAM HASAN-5	Dhaka-Chandpur
	M.V MITALI-4	Dhaka-Chandpur
	M.V EMAM HASAN-2	Dhaka-Chandpur
	M.V JAM JAM-1	Dhaka-Chandpur
	M.V TAQWOA	Dhaka-Chandpur
	M.V MOUR-7	Dhaka-Chandpur
	M.V ZHANDA	Dhaka-Chandpur
	M.V MITALI-2	Dhaka-Chandpur
	M.V SORNODIP	Dhaka-Chandpur
	M.V BOGDADIA-5	Dhaka-Chandpur
	M.V EAGAL-2	Dhaka-Chandpur
	M.V KALAIA	Dhaka-Chandpur
M.V RANGABALI	Dhaka-Chandpur	
M.V JALTARANGA	Dhaka-Chandpur	
M.V SHOMPA	Dhaka-Chandpur	

Annexure 3: BRTA Route Permit List with Fare by Terminal

1) Mohakhali

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total ¹ Fare	Total Applicable Fare	No. of Permitted Bus
1	1	Dhaka (Mohakhali) - Tangail. Via- Ashulia, Kaliakoir.	90	162.95	162.95	163	110
2	2	Dhaka (Mohakhali) - Gopalpur, Via- Ashulia, Kaliakoir, Tangail, Ghatail.	129	233.56	233.56	234	260
3	3	Dhaka (Mohakhali) - Bhuapur, Via- Ashulia, Kaliakoir, Tangail.	114	206.39	206.39	206	57
4	4	Dhaka (Mohakhali) - Delduar, Via- Ashulia, Kaliakoir.	78	141.22	141.22	141	11
5	5	Dhaka (Mohakhali) - Jamalpur, Via- Tangail, Madhupur.	173	313.22	313.22	316	138
6	6	Dhaka (Mohakhali) - Shakhipur, Via-Shagardighi.	152	275.19	276.69	277	7
7	7	Dhaka (Mohakhali) - Sarishabari, Via-Tangail.	166	300.54	300.54	301	9
8	8	Dhaka (Mohakhali) - Nandina, Via-Tangail, Jamalpur.	183	331.32	331.32	331	10
9	9	Dhaka (Mohakhali) - Muktagachha, Via-Bhaluka, Mymensingh.	132	238.99	239.74	240	6
10	10	Dhaka (Mohakhali) - Phulbaria, Via-Bhaluka, Mymensingh.	136	246.23	246.98	247	70
11	11	Dhaka (Mohakhali) - Gouripur, Via-Bhaluka, Mymensingh.	140	253.47	255.47	255	14
12	12	Dhaka (Mohakhali) - Haluaghat, Via-Bhaluka, Mymensingh.	166	300.54	302.54	303	73
13	13	Dhaka (Mohakhali) - Kendua, Via-Bhaluka, Mymensingh.	186	336	338.75	339	12
14	14	Dhaka (Mohakhali) - Gagargaon, Via-Bhaluka.	96	173.81	174.56	175	0
15	15	Dhaka (Mohakhali) - Mymensingh, Via-Bhaluka, Trisal.	116	210.02	210.77	211	215
16	16	Dhaka (Mohakhali) - Netrakona, Via-Bhaluka, Mymensingh.	155	280.63	282.63	283	70
17	17	Dhaka (Mohakhali) - Sherpur, Via-Bhaluka, Mymensingh, Madhupur, Jamalpr.	227	410.98	412.98	413	5
18	104	Dhaka (Mohakhali) - Nalitabari, Via-Tangail, Jamalpur, Sherpur	220	398.31	399.81	400	0
19	140	Dhaka (Mohakhali) - Tarakandi, Via- Ashulia, Kaliakoir, Tangail, Madhupur.	181.5	328.61	328.61	329	9
20	155	Dhaka (Mohakhali) - Nagarpur, Via- Ashulia, Kaliakoir, Delduar.	99	179.24	179.24	179	9
21	158	Dhaka (Mohakhali) - Shagardighi, Via- Ashulia, Kaliakoir.	123	222.69	224.19	224	17
22	193	Dhaka (Mohakhali) - Kishorganj, Via-Bhaluka, Mymensingh, Phulbaria.	150	271.58	273.58	274	2
23	218	Dhaka (Mohakhali) - Najirpur, Via-Bhaluka, Mymensingh, purbadhala.	168	304.16	306.16	306	16
24	219	Dhaka (Mohakhali) - Sherpur, Via-Tangail, Jamalpur.	188	340.37	341.66	342	64
25	220	Dhaka (Mohakhali) - Jamalpur, Via-Bhaluka, Mymensingh, Madhupur.	202	365.72	367.72	368	69
26	221	Dhaka (Mohakhali) - Kendua Bazar, Via-Tangail, Madhupur.	142	257.09	257.09	257	4
27	222	Dhaka (Mohakhali) - Tarakandha, Via-Bhaluka, Mymensingh.	134.6	243.69	244.88	244	0
28	223	Dhaka (Mohakhali) - Sherpur, Via-Bhaluka, Mymensingh, phulpur, Nakla.	183	331.32	333.32	333	269
29	224	Dhaka (Mohakhali) - Brahmanbaria, Via- Tongi, Kaliganj, Narsingdi, Bhairab.	112	202.78	212.66	213	146
30	300	Dhaka (Mohakhali) - Bogra, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu, Nalka.	192	347.62	367.62	368	66
31	301	Dhaka (Mohakhali) - Sirajganj, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu.	128	231.74	251.74	252	52
32	302	Dhaka (Mohakhali) - Naogaon, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu, Nalka, bogra.	242	438.14	458.14	458	77
33	303	Dhaka (Mohakhali) - Rajshahi, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu, Nalka, baragram, (Natun Rasta), Natore.	152	456.25	476.25	476	19
34	304	Dhaka (Mohakhali) - Thakurgaon, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu, Nalka, Bogra, Ghoraghat, Dinajpur.	389.7	705.55	725.55	726	8
35	305	Dhaka (Mohakhali) - Chapai Nawabganj, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu, Nalka, Baraigram (Natun Rasta), Natore, Rajshahi.	297	537.72	558.97	559	126

¹ Total Fare=Bus Fare+ (Toll/average numbers of passenger)

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total ¹ Fare	Total Applicable Fare	No. of Permitted Bus
36	306	Dhaka (Mohakhali) - ,Dinajpur, Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,ghoraghat,	330	597.47	617.47	417	45
37	307	Dhaka (Mohakhali) - Panchagharh , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra,Ghoraghat,Dinajpur,Thakurgaon.	425	769.46	789.46	789	26
38	308	Dhaka (Mohakhali) - Kurigram , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Rangpur, Mithapukur, Haragacha.	341	617.38	637.38	637	81
39	309	Dhaka (Mohakhali) -Rangpur , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra.	297	537.72	557.72	558	82
40	310	Dhaka (Mohakhali) -Gaibandha , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Palashbari.	257	465.29	485.29	485	46
41	311	Dhaka (Mohakhali) -Pabna , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka.	235	425.47	445.47	445	12
42	312	Dhaka (Mohakhali) -Hili , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, joypurhat.	234.03	423.71	443.71	444	2
43	313	Dhaka (Mohakhali) - Lalmonirhat , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Haragacha.	340	615.57	635.57	636	20
44	314	Dhaka (Mohakhali) - Nilphamari , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Rangpur, Saidpur.	357	646.35	666.35	666	34
45	315	Dhaka (Mohakhali) - Debiganj , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Rangpur, Saidpur, Nilphamari.	384	695.23	715.23	715	9
46	316	Dhaka (Mohakhali) - Chilmari , Via- Ashulia, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra, Kurigram.	374	677.13	697.13	697	1
47	318	Dhaka (Mohakhali) - Kishoreganj , Via- Bhaluka, Mymensingh, Ishwarganj,Nandail.	179	324.08	324.83	325	32
48	330	Dhaka (Mohakhali) - Bhairab, Via- Kaliganj,Ghurashal, Narsingdi.	91	164.76	167.14	167	29
49	331	Dhaka (Mohakhali) - Dharmapasha , Via- Bhaluka, Mymensingh, Netrakona.	195	353.05	355.05	355	7
50	336	Dhaka (Mohakhali) - Pakundia , Via- Kapasia.	106	191.91	194.16	194	22
51	337	Dhaka (Mohakhali) - Kishoreganj , Via- Kapasia.	130	235.37	237.62	238	92
52	338	Dhaka (Mohakhali) - Hossainpur (Kishoreganj Upazila) , Via- Kapasia.	137	248.04	250.33	250	22
53	339	Dhaka (Mohakhali) - Katiadi , Via- Kapasia.	106	191.91	194.16	194	16
54	348	Dhaka (Mohakhali) - Joypurhat , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Bogra.	247	447.19	467.19	467	3
55	349	Dhaka (Mohakhali) - Nalitabari , Via- Bhaluka, Mymensingh.	192	347.62	348.37	348	17
56	354	Dhaka (Mohakhali) - Mymensingh , Via- Ashulia, Kaliakoir, Tangail.	186	334.75	336.75	337	1
57	365	Dhaka (Mohakhali) - Narsingdi , Via- Tongi, Kaliganj, Ghurashal.	55.8	101.03	103.41	103	25
58	368	Dhaka (Mohakhali) - Sylhet , Via- Tongi, Bhairab,B-Baria, Madhabpur, Sayestaganj, Sherpur.	245.5	444.48	454.11	454	52
59	374	Dhaka (Mohakhali) - Sunamganj , Via- Bhairab,B-Baria, Madhabpur , Shylhet.	295.5	535.03	544.63	545	4
60	371	Dhaka (Mohakhali) - Biani Bazar , Via- Tongi, Bhairab,B-Baria, Moulavibazar	285	515.99	525.62	526	10
61	379	Dhaka(Mohakhali)- Rangpur , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.					13
62	380	Dhaka (Mohakhali)- Cox's Bazar, Via- Kuril, Rampura Bridge, Saidabad, Comilla,Feni,Chittagong.					21

2) **Sayedabad**

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total Fare	Total Applicable Fare	No. of Permitted Bus
1	18	Dhaka (Saidabad)- Comilla, Via- Daudkandi.	102	184.67	194.67	195	238
2	19	Dhaka (Saidabad)- Laksham, Via- Comilla.	115	208.21	218.21	218	31
3	20	Dhaka (Saidabad)- Homna, Via- Gowripur.	65	117.68	127.68	128	119
4	21	Dhaka (Saidabad)- Nabinagar, Via- Daudkandi, Chandina, Debiduar.	89	161.31	171.13	171	59
5	22	Dhaka (Saidabad)- Kishoreganj, Via-Narsingdi, Bhairab.	140	253.47	253.47	253	169
6	23	Dhaka (Saidabad)- B- Baria , Via-Narsingdi, Bhairab.	103	186.48	191.48	191	136
7	24	Dhaka (Saidabad)- Kutikasba , Via-Narsingdi, Bhairab, B- Baria.	141	255.28	260.28	260	10
8	25	Dhaka (Saidabad)- Kuti Chowmahani , Via-Narsingdi, Bhairab, B-Baria.	135	244.41	249.41	249	4
9	26	Dhaka (Saidabad)- Burichang , Via- Comilla.	102	184.67	194.67	195	7
10	27	Dhaka (Saidabad)- Hajiganj , Via- Comilla.	138	249.84	259.84	260	27
11	28	Dhaka (Saidabad)- Faridganj , Via- Comilla, Chandpur.	174	315.02	325.02	325	40
12	29	Dhaka (Saidabad)- Kachua , Via- Gowripur.	77	139.4	149.4	149	62
13	30	Dhaka (Saidabad)- Raipur , Via- Comilla, Laksham, Chowmahani, Lakshampur.	194	351.23	361.23	361	149
14	31	Dhaka (Saidabad)- Chatkhil , Via- Comilla, Laksham.	154	278.81	288.81	289	17
15	32	Dhaka (Saidabad)- Majidi , Via- Comilla, Feni.	189	342.18	352.18	352	17
16	33	Dhaka (Saidabad)- Ramgati , Via- Comilla, Laksham, Chowmahani, Lakshampur.	218	394.68	404.68	405	40
17	34	Dhaka (Saidabad)- Sonagazi , Via- Comilla, Feni.	168	304.16	314.16	314	21
18	35	Dhaka (Saidabad)- Barisal , Via- Mawa ,Bhanga, Madaripur.	156	282.43	326.23	326	86
19	36	Dhaka (Saidabad)- Chandpur , Via- Comilla, Hajiganj.	157	284.24	298.49	298	80
20	357	Dhaka (Saidabad)- Chandpur , Via- Gowripur, Matlab	97	175.61	189.86	190	15
21	37	Dhaka (Saidabad)- Ramganj , Via- Comilla, Laksham, Chatkhil	168	304.16	318.41	318	63
22	38	Dhaka (Saidabad)- Ramgarh , Via- Comilla, Feni.	207	374.77	384.77	385	0
23	39	Dhaka (Saidabad)- Feni, Via- Comilla.	149	269.76	279.76	280	24
24	40	Dhaka (Saidabad)- Moulivibazar, Via- Narsingdi, Bhairab, Madhabpur.	203	367.53	372.53	373	20
25	41	Dhaka (Saidabad)- Habiganj, Via- Narsingdi, Bhairab, Madhabpur.	166	300.54	305.54	306	55
26	42	Dhaka (Saidabad)- Barlekha, Via- Narsingdi, Bhairab, Madhabpur, Moulavibazar, Kulaura.	265	479.78	484.78	485	3
27	43	Dhaka (Saidabad)- Kulaura , Via- Narsingdi, Bhairab, Madhabpur, Moulavibazar, Rajnagar.	240	434.52	439.52	440	0
28	44	Dhaka (Saidabad)- Jagannathpur , Via- Narsingdi, Bhairab, Madhabpur, Moulavibazar, Sylhet.	306	554.01	560.51	561	0
29	45	Dhaka (Saidabad)- Beani Bazar , Via- Narsingdi, Bhairab, Madhabpur, Moulavibazar, Rajnagar.	286	517.8	522.8	523	24
30	46	Dhaka (Saidabad)- Chhatak , Via- Narsingdi, Bhairab, Moulavibazar, Sylhet.	275	497.88	505.85	506	19
31	47	Dhaka (Saidabad)- Sunamganj , Via- Narsingdi, Bhairab, Moulavibazar, Sylhet.	307	555.82	564.54	565	241
32	48	Dhaka (Saidabad)- Chittagong, Via- Comilla, Feni.	242	438.14	488.14	448	192
33	49	Dhaka (Saidabad)- Cox's Bazar, Via- Comilla, Feni, Chittagong.	396	716.95	730.07	730	457
34	50	Dhaka (Saidabad)- Teknaf, Via- Comilla, Feni, Cox's Bazar.	462	836.45	849.57	850	200
35	51	Dhaka (Saidabad)- Rangamati, Via- Comilla, Feni, Chittagong.	307	555.82	565.82	566	77
36	52	Dhaka (Saidabad)- Bandarban, Via- Comilla, Feni, Chittagong.	318	575.73	585.73	586	40
37	53	Dhaka (Saidabad)- Khagrachhari, Via- Comilla, Feni, Chittagong, Ramgarh.	276	499.69	509.67	510	65
38	54	Dhaka (Saidabad)- Companiganj, Via- Comilla, Moynamoti Cantonment.	167	302.35	312.35	312	55
39	55	Dhaka (Saidabad)- Sunapur , Via- Comilla, Laksham, Chowmahani, Majidi	195	353.04	363.04	363	150
40	56	Dhaka (Saidabad)- Lakshampur , Via- Comilla, Laksham, Chowmahani .	177	320.45	330.45	330	67
41	57	Dhaka (Saidabad)- Sylhet , Via- Narsingdi, Bhairab, Moulavibazar.	257	465.29	472.51	473	138

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)
Appendix

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total Fare	Total Applicable Fare	No. of Permitted Bus
42	58	Dhaka (Saidabad)- Kankirhat, Via- Comilla, Feni.	176	318.64	328.64	329	11
43	351	Dhaka (Saidabad)- Kankirhat, Via- Comilla, Laksham.	176	318.64	328.64	329	0
44	59	Dhaka (Saidabad)- Noakhali(Majidi) , Via- Comilla, Feni.	188	340.37	350.37	350	7
45	60	Dhaka (Saidabad)- Basurhat, Via- Comilla, Feni, Majidi.	216	391.06	401.06	401	47
46	61	Dhaka (Saidabad)- Parshuram, Via- Comilla, Feni.	173	313.21	323.21	323	22
47	68	Dhaka (Saidabad)- Gopalganj , Via- Mawa, Bhanga,Rajoir.	188	340.37	384.17	384	0
48	95	Dhaka (Saidabad)- Barura , Via- Comilla	113	204.58	214.58	215	7
49	96	Dhaka (Saidabad)- Khulna, Via-Mawa,Bhanga, Gopalganj.	194	351.23	400.48	400	122
50	133	Dhaka (Saidabad)- Zakiganj , Via- Narsingdi,Bhairab, Moulavibazar,Sylhet .	350	633.67	639.39	639	1
51	147	Dhaka (Saidabad)- Shariatpur, Via-Mawa, Janjira.	73	132.16	172.66	173	15
52	149	Dhaka (Saidabad)- Jaflong , Via- Narsingdi,Bhairab,B- Baria, Moulavibazar,Sylhet .	319.5	578.45	585.67	586	2
53	156	Dhaka (Saidabad)- Nawabpur , Via- Daudkani.	73	132.16	142.16	142	3
54	157	Dhaka (Saidabad)- Pirojpur , Via- Mawa,Bhanga,Barisal .	206	372.96	423.88	424	59
55	352	Dhaka (Saidabad)- Pirojpur , Via- Mawa,Bhanga, Gopalganj,Bagerhat.	223.41	404.48	456.65	457	20
56	159	Dhaka (Saidabad)- Begumganj, Via- Laksham, feni.	180	325.89	335.89	336	20
57	166	Dhaka (Saidabad)- Chhagalnaiya, Via- Comilla,Feni.	162	293.76	303.76	304	2
58	174	Dhaka (Saidabad)- Nangalkot, Via- Comilla,Laksham.	138	249.84	259.84	260	2
59	175	Dhaka (Saidabad)- Chitawshi, Via- Comilla.	137	248.03	258.03	258	11
60	176	Dhaka (Saidabad)- Dighinala , Via- Comilla,Feni,Ramgarh,Khagrachhari.	277	501.5	511.5	512	33
61	177	Dhaka (Saidabad)- Tabaolchhari , Via- Comilla,Feni,Ramgarh.	291	526.85	536.85	537	25
62	178	Dhaka (Saidabad)- Chauddagam, Via- Comilla.	126.5	229.02	239.02	239	25
63	179	Dhaka (Saidabad)- Matlab, Via- Daudkandi, Gowripur.	80	144.84	154.84	155	0
64	184	Dhaka (Saidabad)- Bhairab, Via- Narsingdi.	81	146.65	146.65	147	57
65	195	Dhaka (Saidabad)- Panchhari , Via- Comilla,Feni,Ramgarh,Khagrachhari.	281	508.75	518.75	519	0
66	198	Dhaka (Saidabad)- Patuakhali, Via-Mawa,Bhanga , Barisal.	192	347.61	397.98	398	24
67	199	Dhaka (Saidabad)- Madaripur, Via-Mawa,Bhanga.	99	179.23	223.03	223	28
68	200	Dhaka (Saidabad)- Shaharasti, Via-Comilla.	127	229.93	23.39	240	9
69	203	Dhaka (Saidabad)- Companiganj, Via-Comilla, Feni, Daganbhuiyan.	167	302.35	312.35	312	11
70	204	Dhaka (Saidabad)- Fenchuganj , Via- Narsingdi,Bhairab, Madhabpur, Srimangal, Moulavibazar .	234	423.65	430.87	432	1
71	205	Dhaka (Saidabad)- Kaptai , Via- Comilla,Feni, Cahittagong.	286	517.8	527.8	528	15
72	206	Dhaka (Saidabad)- Barhmanpara , Via- Comilla,Burichang.	113	204.58	214.58	215	7
73	207	Dhaka (Saidabad)- Satkhira, Via-Mawa,Bhanga ,Gopalganj,Khulna.	250	452.62	501.42	501	0
74	208	Dhaka (Saidabad)- Ramganj , Via- Comilla, Hajiganj.	154	278.81	293.06	293	71
75	329	Dhaka (Saidabad)- Narsingdi.	60	108.63	108.63	109	91
76	333	Dhaka (Saidabad)- Faridpur, Via-Mawa,Bhanga .	102	184.67	108.63	228	11
77	334	Dhaka (Saidabad)- Hossenpur(Chanpur upazila), Via-Nawabpur, Madhayabazar, Rahimanagar.	96	173.8	228.47	184	52
78	335	Dhaka (Saidabad)- Muradnagar, Via-Iliatganj	86	155.7	165.7	166	14
79	340	Dhaka (Saidabad)- Chamrabandar , Via- Narsingdi,bhairab.	160	289.68	289.68	290	20
80	341	Dhaka (Saidabad)- Munshiganj, Via-Mukterpur.	27	48.88	53.88	54	26
81	342	Dhaka (Saidabad)- Char Fession(Bhola), Via-Mawa,Bhanga,Madaripur,Barisal,Bhola.	257	465.29	518.84	519	0
82	343	Dhaka (Saidabad)- Hossenpur(Chanpur upazila),Via -Gowripur,Rahimapur.	89.5	162.03	172.03	172	26
83	344	Dhaka (Saidabad)- Char Fession(Bhola), Via- Comilla,Laksham,Chatkhil, Lakshampur,Bhola.	278	503.31	572.43	572	5
84	345	Dhaka (Saidabad)- Shariatpur, Via- Bhuriganga 2nt Shetu, Mawa.	73	132.16	174.01	174	7
85	346	Dhaka (Saidabad)- Manahardi, Via- Narsingdi.	84	152.08	152.08	152	41
86	347	Dhaka (Saidabad)- Dighirpara, Via- Mukterpur,Munshiganj.	41.5	75.13	80.13	80	42

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total Fare	Total Applicable Fare	No. of Permitted Bus
87	350	Dhaka (Saidabad)- Mawa, Via- Mukterpur,Tongibari.	0	0	0	0	0

3) Gabtoli

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total Fare	Total Applicable Fare	No. of Permitted Bus
1	62	Dhaka(Gabtoli)- Faridpur, Via- Paturia.	109	198.61	262.71	263	48
2	63	Dhaka(Gabtoli)- Alfadanga, Via- Paturia, Faridpur.	158	286.05	350.15	350	4
3	64	Dhaka(Gabtoli)-Mukhsudpur, Via- Paturia, Faridpur.	203	367.53	431.63	432	0
4	65	Dhaka(Gabtoli)- Barisal, Via- Paturia, Faridpur, Madaripur.	242	438.14	509.13	509	103
5	66	Dhaka(Gabtoli)- Patuakhali, Via- Paturia, Faridpur, Madaripur, Barisal.	278	503.31	587.06	587	50
6	67	Dhaka(Gabtoli)- Madaripur, Via- Paturia, Faridpur.	177	320.45	384.55	358	8
7	69	Dhaka(Gabtoli)- Rajbari, Via- Paturia, Goalanda.	108	195.53	259.63	260	34
8	70	Dhaka(Gabtoli)- Jessore, Via- Paturia, Faridpur, Jhenaidah	232	420.03	484.13	484	5
9	70k	Dhaka(Gabtoli)- Jessore, Via- Paturia, Faridpur, a Magura,Arppara	212	383.82	447.92	448	5
	71	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, Magura,Arppara,Jessore.	272	492.45	559.65	560	165
	71k	Dhaka(Gabtoli)- Khulna, Via- Paturia, Faridpur, a Magura,Jhenaidah,Jessore.	292	528.67	595.87	596	6
10	72	Dhaka(Gabtoli)- Bagerhat, Via- Paturia, Faridpur, Magura,Arppara,Jessore, Khulna.	310	561.26	628.46	628	17
11	73	Dhaka(Gabtoli)- Kaliganj, Via- Paturia, Faridpur, Magura,Arppara,Jessore, Khulna,Satkhira.	347	628.24	695.44	695	11
12	74	Dhaka(Gabtoli)- Satkhira, Via- Paturia, Faridpur, Magura,Arppara,Jessore, Khulna.	320	589.36	656.56	657	117
13	75	Dhaka(Gabtoli)-Benapole, Via- Paturia, Faridpur, Magura,Arppara,Jessore.	250	452.63	519.83	520	12
14	76	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Faridpur, Magura,Jhenaidah.	230	416.42	483.62	484	11
15	77	Dhaka(Gabtoli)- Meherpur, Via- Paturia, Faridpur, Magura,Jhenaidah, Chuadanga.	249	450.81	518.01	518	88
16	78	Dhaka(Gabtoli)- Meherpur, Via- Kazirhat, Pabna,Pakshi Shetu, Bheramara , Mirpur.	315	570.31	637.51	638	21
17	79	Dhaka(Gabtoli)- Kushtia, Via- Paturia, Goalanda,Rajbari.	151	273.39	340.49	340	12
18	80	Dhaka(Gabtoli)- Praghpur, Via- Paturia, Goalanda,Rajbari.	217	392.88	459.98	460	12
19	81	Dhaka(Gabtoli)-Pabna , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu .	223	403.74	434.76	435	117
20	82	Dhaka(Gabtoli)-Rajshahi , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore.	247	447.19	478.21	478	84
21	83	Dhaka(Gabtoli)-Nawabganj , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka,Baraigram(Natun Rasta), Natore, Rajshahi.	293	530.48	561.5	562	179
22	84	Dhaka(Gabtoli)-Bogra , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka.	191	345.81	376.83	377	14
23	85	Dhaka(Gabtoli)- Naogaon , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	243	439.95	470.97	471	83
24	86	Dhaka(Gabtoli)- Joypurhat , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	247	447.19	478.21	478	5
25	87	Dhaka(Gabtoli)- Gaibandha , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Palashbari.	268	485.21	516.23	516	36
26	88	Dhaka(Gabtoli)- Rangpur , Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra.	308	557.63	588.65	589	120
27	89	Dhaka(Gabtoli)- Lalmonirhat, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Haragachha.	350	633.68	664.7	565	31
28	90	Dhaka(Gabtoli)- Kurigram, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Haragachha.	353	639.11	670.13	470	91
29	91	Dhaka(Gabtoli)- Dinajpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat.	330	557.47	589.69	590	131
30	92	Dhaka(Gabtoli)- Thakurgaon, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur.	387	700.66	731.68	732	64
31	93	Dhaka(Gabtoli)- Panchagarh, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra,Ghoraghat, Dinajpur, Thakurgaon.	424	767.65	798.67	799	93

The Preparatory Study on The Dhaka Mass Rapid Transit Development Project (TOD)

Appendix

SL	No	Route Description	Distance Provided By RHD (KM)	Bus Fare (Tk. 1.42 per KM)	Total Fare	Total Applicable Fare	No. of Permitted Bus
32	94	Dhaka(Gabtoli) - Mujibnagar, Via- Paturia, Faridpur, Magura, Jhenaidah, Chuadanga, Meherpur.	259	468.92	536.12	536	14
33	97	Dhaka(Gabtoli) -Natore, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Baraigram(Natun Rasta),	203	367.53	400.62	401	2
34	98	Dhaka(Gabtoli)- Chuadanga, Via- Paturia, Faridpur, Magura, Jhenaidah.	216	391.07	458.27	458	21
35	99	Dhaka(Gabtoli)-Nilphamari, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur, Saidpur.	358	648.16	679.18	679	65
36	100	Dhaka(Gabtoli)- Patgram, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Lalmonirhat.	410	742.31	773.33	773	6
37	101	Dhaka(Gabtoli)- Mongla , Via- Paturia, Faridpur, Magura, Arrapara, Jessore, Khulna.	300	543.15	610.35	610	2
38	102	Dhaka(Gabtoli)- Chilmari, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Kurigram.	367	664.45	695.47	695	0
39	103	Dhaka(Gabtoli)- Saidpur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur.	338	611.95	642.97	643	5
40	105	Dhaka(Gabtoli)- Ulipur, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Kurigram.	352	637.3	668.32	668	0
41	106	Dhaka(Gabtoli)- Hili, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Joypurhat.	268	485.21	516.23	516	15
42	138	Dhaka(Gabtoli)- Shibganj, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Baraigram, Natore, Rajshahi, Chapay Nawabganj.	314	568.5	599.52	600	7
43	160	Dhaka(Gabtoli)- Ishwardi, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Pabna.	249	450.82	481.84	482	51
44	131	Dhaka(Gabtoli)- Sirajganj, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu .	123	222.69	253.71	254	1
45	185	Dhaka(Gabtoli)- Narail, Via- Paturia, Faridpur, Magura, Arrapara, Jessore.	236	427.28	494.48	294	3
46	187	Dhaka(Gabtoli)- Debiganj, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Rangpur, Saidpur, Nilphamari.	377	682.56	713.58	714	11
47	209	Dhaka(Gabtoli)- Jessore, Via- Paturia, Faridpur, Magura, Arrapara.	212	383.83	451.03	451	3
48	210	Dhaka(Gabtoli)- Kaliganj, Via- Paturia, Faridpur, Magura, Jhenaidah.	192	347.62	414.82	415	1
49	211	Dhaka(Gabtoli)- Jhalokati, Via- Paturia, Faridpur, Madaripur, Barisal.	258	467.11	538.1	538	42
50	212	Dhaka(Gabtoli)- Pirojpur, Via- Paturia, Faridpur, Barisal, Jhalokati .	284	514.18	591.21	591	42
51	213	Dhaka(Gabtoli)- Pabna, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Baraigram, (Natun Rasta) Dasurai.	218	394.69	425.71	426	0
52	214	Dhaka(Gabtoli)- Lakshmipasha, Via- Paturia, Faridpur, Magura, Jessore, Narail.	238	430.9	498.1	498	3
53	215	Dhaka(Gabtoli)- Bhurungamari, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Bogra, Mithapukur, Lalmonirhat.	434	785.76	821.95	822	41
54	216	Dhaka(Gabtoli)- Gopalganj, Via- Paturia, Faridpur, Mukshudpur. .	204	369.34	415.84	416	41
55	217	Dhaka(Gabtoli)- Barguna, Via- Paturia, Faridpur, Madaripur, Barisal, Patuakhali.	304	550.39	642.75	683	75
56	299	Dhaka(Gabtoli)- Rajshahi, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Shahazadpur, Pabna, Natore.	336	608.33	641.41	641	41
57	317	Dhaka(Gabtoli)- Chapay Nawabganj, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Shahazadpur, Pabna, Natore, Rajshahi.	383	693.42	726.5	727	0
58	326	Dhaka(Gabtoli)- Magura, Via- Paturia, Faridpur.	155.4	281.35	348.55	349	0
59	329	Dhaka(Gabtoli)- Jhenaidah, Via- Paturia, Faridpur, Magura.	192	347.62	414.82	415	0
60	332	Dhaka(Gabtoli)- Khulna, Via- Nabinagar, Kaliakoir, Tangail, Jamuna shetu , Nalka, Baraigram, (Natunrasta), Pakshi shetu, Kushtia, Jhenaidah, Jessore.	394	713.34	752.46	752	62
61	355	Dhaka(Gabtoli)- Darsana, Via- Paturia, Faridpur, Magura, Jhenaidah.	206	372.96	440.16	440	14

4) Sadarghat

SL	Route	Total Distance (Kilometre)	Fare (BDT.)
1	Dhaka-Barisal (Direct)	161	255
2	Dhaka-Amtoli	239	365
3	Dhaka-Potuakhali	252	383
4	Dhaka-Jhalakathi	199	309
5	Dhaka-Lalkharabad-Bhola	194	302
6	Dhaka-Muladi Bazar	137	222
7	Dhaka-Barisal (Direct)	174	274
8	Dhaka-Charmontaz	249	379
9	Dhaka-Burhanuddin(Kheya Ghat)	193	300
10	Dhaka-Dumudday	118	195
11	Dhaka-Chandpur	68	116
12	Dhaka-Eidgaon Ferry Ghat	74	126
13	Dhaka-Daulatkha	179	281
14	Dhaka-Hatiya(Tamaruddin Bazar)	233	356
15	Dhaka-Betua Charfassion	246	374
16	Dhaka-Madaripur	174	274
17	Dhaka-Patarhat	166	262
18	Dhaka-Surjamonni	131	213
19	Dhaka-Ramchandrapur	78	133
20	Dhaka-Charjalalpur	92	156
21	Dhaka-Haturia	110	184
22	Dhaka-Dohari	43	73
23	Dhaka-Letra	207	320
24	Dhaka-Angaria	103	174
25	Dhaka-Galachipa	274	414
26	Dhaka-Matlob	76	129
27	Dhaka-Haimchar- Charbourabi	102	173
28	Dhaka-Torki	155	247
29	Dhaka-Ischuli	73	124
30	Dhaka-Lalmohan	201	311
31	Dhaka-Bhandaria	209	323
32	Dhaka-Barguna	278	419
33	Dhaka-Kalaiya	183	286
34	Dhaka-Muladi	170	268
35	Dhaka-Balabazar	105	177
36	Dhaka-Barisal	170	268
37	Dhaka-Patabunia	172	271
38	Dhaka-Paisarhat	168	265
39	Dhaka-Rangabali	282	425
40	Dhaka-Barisal-Merrelganj	350	550

Appendix F: Laws and Regulations

Dhaka Mohanagar Building Construction Act 2008

Chapter 5 Clause 51 (1)

Table -3 (a)

General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building:

[Type: A (A1-A5): Residential house and Hotel]

Size of the Plot		Building type: (A1-A4) ^[1] (Residential House)			Building type: (A5) ^[2] (Residential Hotel)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	6.0	3.15	67.5	6.0	2.50	67.5
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	6.0	3.35	65.0	6.0	2.75	65.0
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	6.0	3.50	62.5	6.0	3.00	62.5
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	6.0	3.50	62.5	6.0	3.25	62.5
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	6.0	3.75	60.0	6.0	3.50	60.0
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	6.0	3.75	60.0	6.0	3.75	60.0
Above 469 m ² to up to 536 m ²	Above 7 katha to up to 8 katha	6.0	4.00	60.0	6.0	4.50	57.5
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	6.0	4.00	60.0	9.0	5.50	67.5
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	6.0	4.25	57.5	9.0	6.00	55.0
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	9.0	4.50	57.5	9.0	6.50	55.0
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	9.0	4.75	55.0	9.0	7.00	52.5
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	9.0	5.00	52.5	9.0	7.50	52.5
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	9.0	5.25	52.5	9.0	8.00	50.0
Size of the Plot		Building type: (A1-A4) ^[1] (Residential House)			Building type: (A5) ^[2] (Residential Hotel)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)	Road width (m)	FAR	MGC (%)
Above 1206 m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	9.0	5.25	50.0	9.0	8.50	50.0
Above 1340 m ²	Above 20 katha	12.0	5.50	50.0	12.0	9.50	50.0 ^[2]
Any size	Any size	18.0	6.00	50.0	18.0	NR	50.0 ^[2]
Any size	Any size	24.0	6.50	50.0	24.0	NR	50.0 ^[2]

[1] Following land use are allowed in an unplanned residential area (providing traffic, parking and other demands: (a) dormitory and hostel (b) child home, orphanage and old home (c) hotel or lodge with max. 20 room (d) restaurant-up to 100m² (e) religious place up to 200m² (f) ground floor of residential building can be used as office, studio or chamber of max. 100 m² and occupant up to 15 nos. and (g) saloon, beauty parlor, pharmacy, grocery, tailoring shop of up to 25 m² only for corner plot

[2] For building type A5 (residential hotel), plot above 20 katha or any measurement of plot beside road width 18m or above, podium of max. 12m (including parapet) height can be built from upper surface of road (without max. mandatory setback for ground floor). *NR (Non restricted) - No obligation of FAR.

Table-3 (b)
General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building:
[Type: B (B1-B2): Educational Institution]

Size of the Plot		Building type: (B1) (School, College and University)			Building type: (B2) (Elementary School and Kindergarten)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	**	**	**	**	**	**
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	**	**	**	**	**	**
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	**	**	**	**	**	**
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	**	**	**	**	**	**
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	6.0	2.50	60.0	6.0	2.00	50.0 ^[3]
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	6.0	2.50	60.0	6.0	2.00	50.0 ^[3]
Above 469m ² to up to 536 m ²	Above 7 katha to up to 8 katha	6.0	2.50	60.0	6.0	2.00	50.0 ^[3]
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	6.0	2.75	60.0	6.0	2.25	50.0 ^[3]
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	6.0	2.75	60.0	6.0	2.25	50.0 ^[3]
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	9.0	3.00	57.0	9.0	2.50	50.0 ^[3]
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	9.0	3.00	55.0	9.0	2.50	50.0 ^[3]
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	9.0	3.25	53.0	9.0	2.75	50.0 ^[3]
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	9.0	3.25	50.0	9.0	2.75	50.0 ^[3]
Above 1206m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	9.0	3.50	50.0	9.0	3.00	50.0 ^[4]
Above 1340m ²	Above 20 katha	12.0	4.00	50.0	12.0	3.50	50.0 ^[4]
Any size	Any size	18.0	4.50	50.0	18.0	4.00	50.0 ^[4]
Any size	Any size	24.0	5.50	50.0	24.0	4.50	50.0

[3] In B2 type buildings, open space of ground floor will be considered FAR free. Max. 20% of this open space can be used as room for supporting function of open space and again this portion (20%) will be considered as FAR free.
[4] In B2 type buildings, open space of ground floor will be considered as FAR free. Max. 40% of this open space can be used as room for supporting function of open space and again this portion (40%) will be considered as FAR free.
** Up to 335 m² or 5 katha land B-1 and B-2 type land use is not permitted

Table-3(c)
General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building:
[Type: C (C1-C4) and D(D1-D2): Institution and Healthcare]

Size of the Plot		Building type: C (C1-C4)(Institutional)			Building type: D(D1-D2)(Healthcare)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	**	**	**	**	**	**
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	**	**	**	**	**	**
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	**	**	**	**	**	**
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	**	**	**	**	**	**
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	6.0	3.25	60.0	6.0	3.25	60.0
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	6.0	3.25	60.0	6.0	3.25	60.0
Above 469m ² to up to 536 m ²	Above 7 katha to up to 8 katha	6.0	3.25	60.0	6.0	3.25	60.0
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	6.0	3.50	57.5	9.0	3.50	57.5
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	6.0	3.50	57.5	9.0	3.50	57.5
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	9.0	3.75	55.0	9.0	3.75	55.0
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	9.0	4.00	55.0	9.0	4.00	55.0
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	9.0	4.25	52.5	9.0	4.25	52.5
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	9.0	4.50	50.0	9.0	4.50	50.0
Above 1206 m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	9.0	4.75	50.0	9.0	4.75	50.0
Above 1340m ²	Above 20 katha	12.0	5.00	50.0 ^[5]	12.0	5.00	50.0 ^[5]
Any size	Any size	18.0	NR**	50.0 ^[5]	18.0	NR**	50.0 ^[5]
Any size	Any size	24.0	NR**	50.0 ^[5]	24.0	NR**	50.0 ^[5]

[5] In C and D type buildings, for land above 20 katha/land of any size of road width 18m or above maintaining required setback, Podium of maximum 12m height (including parapet height) can be built from the top of road surface.
* NR (Non restricted)- No rigidity of FAR.
** Up to 335 m² or 5 katha land C and D type land use is not permitted

Table-3(d)
General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building:
[Type: E(E1-E6) : Public Gathering and Religious Building]

Size of the Plot		Building type: E (E1-E6) (Public Gathering Building)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	6.0	2.00	65.0
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	6.0	2.00	65.0
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	6.0	2.25	60.0
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	6.0	2.25	60.0
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	9.0	2.50	57.5
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	9.0	2.50	57.5
Above 469m ² to up to 536 m ²	Above 7 katha to up to 8 katha	9.0	2.75	55.0
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	9.0	2.75	55.0
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	9.0	3.00	52.5
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	12.0	3.25	50.0
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	12.0	3.50	50.0
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	12.0	3.75	50.0
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	12.0	4.00	50.0
Above 1206 m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	12.0	4.25	50.0
Above 1340m ²	Above 20 katha	12.0	5.50	50.0
Any size	Any size	18.0	6.50	50.0
Any size	Any size	24.0	7.00	50.0 ^[6]

[6] Beside road width 24m or above (land of any size) maintaining required setback, Podium of maximum 12m height (including parapet height) can be built from the top of road surface.

Chart-3(e)
General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building:
[Type: F (F1-F5): Commercial Building]

Size of the Plot		Building type: F1(Office)			Building type: (F2-F5)(Shop, market etc.)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	6.0	2.50	67.5	6.0	2.25	65.0
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	6.0	3.00	65.0	6.0	2.50	62.5
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	6.0	3.00	65.0	6.0	2.50	62.5
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	6.0	3.50	62.5	6.0	3.00	60.0
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	6.0	3.50	62.5	6.0	3.00	60.0
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	6.0	3.75	60.0	9.0	3.25	57.5
Above 469m ² to up to 536 m ²	Above 7 katha to up to 8 katha	9.0	4.50	57.5	9.0	3.25	57.5
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	9.0	5.50	57.5	9.0	3.25	55.0
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	9.0	6.00	55.0	9.0	3.50	52.5
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	9.0	6.50	55.0	12.0	3.75	52.5
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	9.0	7.00	52.5	12.0	4.00	52.5
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	9.0	7.50	52.5	12.0	4.25	50.0
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	9.0	8.00	50.0	12.0	4.50	50.0
Above 1206 m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	9.0	8.50	50.0	12.0	4.75	50.0
Above 1340m ²	Above 20 katha	12.0	9.50	50.0 ^[7]	12.0	5.50	50.0
Any size	Any size	18.0	NR**	50.0 ^[7]	18.0	6.50	50.0
Any size	Any size	24.0	NR**	50.0 ^[7]	24.0	NR**	50.0 ^[7]

[7] Maintaining required setback, Podium of maximum 12m height (including parapet height) can be built from the top of road surface.

* NR (Non restricted)- No rigidity of FAR.

Table-3(f)

General width of road, floor area ratio (FAR) and max. ground coverage (MGC) for building: [Type: G(G1-G2), H(H1-H2), J(J1-J2), K(K1-K2) : Industry, Warehouse/Storage, Building with Hazardous Usage and others]

Size of the Plot		Building type: E (E1-E6) (Industry, Warehouse/Storage, Building with Hazardous Usage and others)		
Square meter (m ²)	Katha	Road width (m)	FAR	MGC (%)
134 m ² or less	2 katha or less	6.0	2.00	65.0
Above 134 m ² to up to 201 m ²	Above 2 katha to up to 3 katha	6.0	2.00	65.0
Above 201 m ² to up to 268 m ²	Above 3 katha to up to 4 katha	6.0	2.25	65.0
Above 268 m ² to up to 335 m ²	Above 4 katha to up to 5 katha	6.0	2.25	65.0
Above 335 m ² to up to 402 m ²	Above 5 katha to up to 6 katha	6.0	2.50	65.0
Above 402 m ² to up to 469 m ²	Above 6 katha to up to 7 katha	6.0	2.50	65.0
Above 469 m ² to up to 536 m ²	Above 7 katha to up to 8 katha	9.0	2.75	65.0
Above 536 m ² to up to 603 m ²	Above 8 katha to up to 9 katha	9.0	2.75	65.0
Above 603 m ² to up to 670 m ²	Above 9 katha to up to 10 katha	9.0	2.75	65.0
Above 670 m ² to up to 804 m ²	Above 10 katha to up to 12 katha	9.0	3.00	62.5
Above 804 m ² to up to 938 m ²	Above 12 katha to up to 14 katha	9.0	3.25	62.5
Above 938 m ² to up to 1072 m ²	Above 14 katha to up to 16 katha	9.0	3.50	60.0
Above 1072 m ² to up to 1206 m ²	Above 16 katha to up to 18 katha	9.0	3.75	60.0
Above 1206 m ² to up to 1340 m ²	Above 18 katha to up to 20 katha	9.0	4.00	60.0
Above 1340 m ²	Above 20 katha	12.0	4.25	60.0
Any size	Any size	18.0	4.50	60.0
Any size	Any size	24.0	5.00	60.0

Chapter 5 Clause 56
Parking Space

Type of Car	Parking Width (meter)	Parking Length (meter)	Internal turning radius for car (meter)	Outer side turning radius (meter)
Normal Car (for each)	2.4	4.6
Bus and Truck (for each)	3.6	10.0	8.7	12.8
Multi-excel Truck/ Long Trailer (for each)	3.6	18.0	6.9	3.8
Two wheeled Bike (for each)	1.0	2.0

Parking	One way traffic One side bay	One way traffic Two Side bay	Two way traffic
0 ⁰	3.5 m	4.0 m	4.25 m
45 ⁰	4.5 m	4.0 m	4.25 m
90 ⁰	4.25 m	4.25 m	4.25 m

Clause 56 Table 4: Minimum Parking Requirements

Occupancy		Minimum parking requirements
Residential (occupancy type- 'A')		1 car parking
Single family/ row house- semidetached residence up to 200 m ² gross area		
Single family/ row house- semidetached residence above 200 m ² gross area		2 car parking
Flat above 200m ² gross area in Multi-family residence		1 car parking for each unit
Flat above 140 m ² to 200m ² gross area		2 car parking for each 3 unit
Flat above 90 m ² to 140m ² gross area		1 car parking for each 2 unit
Flat above 60 m ² to 90m ² gross area		1 car parking for each 4 unit
Flat up to 60 m ² gross area		1 car parking for each 8 unit
Flat up to 90 m ² gross area		1 motor cycle parking for each 5 unit
Hotel (Star class)		1 car parking for each 5 guest room
Hotel (other class)		1 car parking for each 200m ² gross area
Others		1 car parking for each 300m ² gross area
Educational institution (Occupancy type- 'B')		1 car parking for each 200m ² gross area. Within school campus dropping bay (open to all) is mandatory in ground floor having unobstructed 4.25m width and 25m length, parallel with road. For plot frontage length below 25m, unobstructed dropping bay will run along the site front length and 4.25m width.
Kindergarten, Primary school, High school, College, Tertiary educational institution, Training center, University and other educational institution		
Institutional (Occupancy type- 'C')		1 car parking for each 200m ² gross area
Health care (Occupancy type- 'D')		1 car parking for each 5 beds
Hospital, clinic		
Medial Laboratory		1 car parking for each 100m ² gross area
Others (medical outpatient, group practice etc.)		1 car parking for each 200m ² gross area
Public gathering (Occupancy type- 'E')		1 car parking for each 40seat
Cinema		
Theatre, Auditorium		1 car parking for each 20 seats
Marriage/ party center		1 car parking for each 100m ² gross area
Religious structure	Up to 300 m ²	1 car parking minimum
	Above 300 m ²	1 car parking for each 100m ² gross area
Others		1 car parking for each 200m ² gross area
Commercial (Occupancy type- 'F')		1 car parking for each 200m ² gross area
Shop, Departmental Store		
Restaurant		1 car parking for each 100m ² gross area
Occupancy		Minimum parking requirements
Office		1 car parking for each 200m ² gross area
Others		1 car parking for each 200m ² gross area
Industrial (Occupancy type- 'G')		For all structure 1 truck parking and 1 car parking is mandatory excluding loading unloading bay. For official or administrative portion 1 car parking for each 200m ² gross area will be ensured.
Storage building (Occupancy type- 'H')		
<p>Note</p> <ul style="list-style-type: none"> • Parking in a mixed-use building will be based on occupancy type of each floor. The sum of each floor parking requirements will be the parking requirements of the whole building. • For different type of flat, the total parking will be the sum of each type of flat. • For fraction in parking requirements, 1 parking will be considered. • The parking for lower income group can be lowered by the permission of the town development authority. • For flat below 90m² area parking can be ensured by combining motor cycle and car. • For any type of building at least 1 car parking is mandatory. 		

Private Residential Land Development Rules 2004

Minimum Area by size of population (acre)

Community Service	Size of the population									
	2500	5000	10000	15000	20000	25000	50000	100000	150000	Service per 1000 population
Education (acres)										
Nursery	0.20	0.40	0.80	1.20	1.60	2.00	4.00	8.00	12.00	0.08
Primary School	0.30	0.60	1.00	1.20	1.60	2.00	4.00	8.00	12.00	0.08
Secondary School			1.20	1.50	2.00	1.50	5.00	10.00	15.00	0.10
College				1.20	1.60	2.00	4.00	8.00	12.00	0.08
Health (acres)										
Small Clinic				0.60	0.80	1.00	2.00			0.04
Hospital								4.00	6.00	0.04
Utility and Community Services (acres)										
Utility Community and Religious Service	0.10	0.20	0.50	0.60	0.80	1.00	2.00	4.00	6.00	0.04
Recreation (acres)										
Playground/Play fields	0.50	1.00	1.00	1.20	1.60	2.00	4.00	8.00	12.00	0.08
Parks	0.50	1.00	1.50	1.80	2.40	3.00	6.00	12.00	18.00	0.12
Commercial (acres)										
Commercial/ Shop/ Market / Kacha Bazar	0.20	0.30	0.50	0.60	0.80	1.00	2.00	4.00	6.00	0.04
Roads (acres)										
Residential Roads	0.90	1.70	3.50	5.00	6.80	8.50	17.00	34.00	51.00	0.34
Total Area for Community Facilities	2.70	5.20	10.00	14.90	20.00	25.00	50.00	100.00	150.00	1.00
Net Residential Area	4.44	9.08	18.50	27.95	37.14	46.43	92.85	185.71	278.57	
Gross Residential Area	7.14	14.28	28.57	42.85	57.14	71.43	142.85	285.71	428.57	
Persons per Acre	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	