

APPENDIX 10: ROAD INVENTORY, REVIEW OF STP HIGHWAY PLAN AND PROPOSED FLYOVER PROJECTS

10.1 Road Inventory Survey

(1) Objective of the Survey

Road inventory data is one of the most fundamental result in formulation of urban transport plan, which consists of road network plan, public transport plan and traffic system management. However, the main objective of the road inventory survey is to collect different parameters relating to road, in which existing road could be identified. The road inventory parameters of the study are as follows:

- a) Road name and section;
- b) Starting and ending points with length;
- c) Width of carriageway, sidewalk and right of way (ROW);
- d) Pavement and surface condition; and
- e) Land use adjacent to the road

(2) Survey Coverage

The road inventory survey covered the National Highways, Regional Highway, Primary road and other important linked roads in the Dhaka Metropolitan Area.

(3) Methodology

The road inventory survey followed the following steps:

- a) Using GPS identification of road sub sections: starting and ending point
- b) Recording physical condition of roads by using inventory survey form

(4) Survey Schedule

The road inventory was done as the schedule shown as follows:

Name of Surveys	Starts	Ends
Road Inventory Survey	09 June 2009	25 July 2009
Data entry	10 June 2009	28 July 2009

(5) Surveyed Road and Form

The surveyed roads were carried out surveying as shown in Figure 10.1-1 and the filling form is shown in Table 10.1-1.

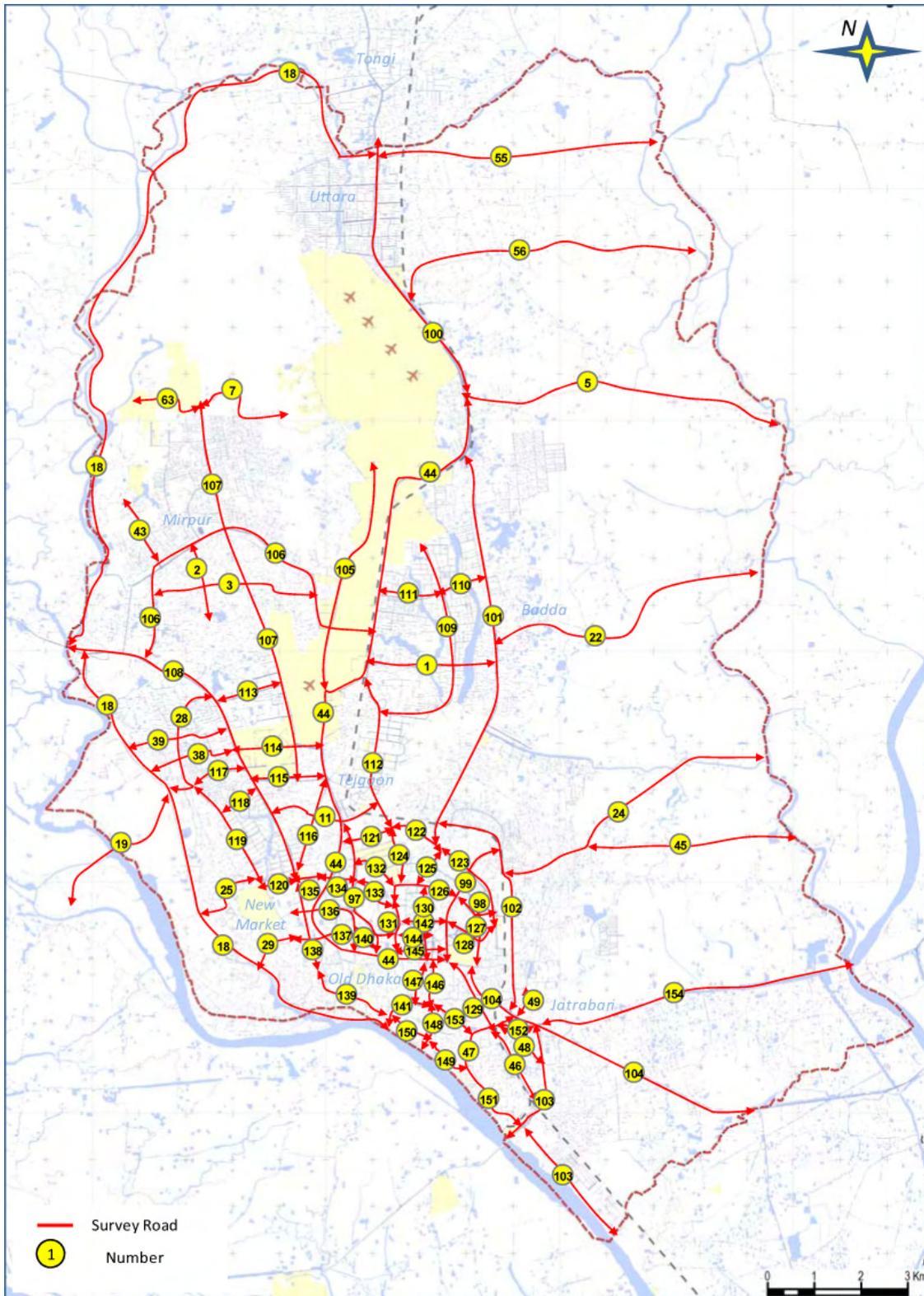


Figure 10.1-1 Inventory Surveyed Road

Table 10.1-1 Form of Road Inventory Survey

Road No and Name		Survey Date		Surveyor		Supervisor																			
Road No.	Sub - Section No.	Check Point Name		Sub section Length (km)		Cross Section Location		Road Way						Intersection											
		From	To	Latitude	Longitude	Divided or Undivided	No. of Lanes	Width (m)	Carrageway pavement type	Condition	Type	Sidewalk Width (m)	Right Left	pavement type	Condition	Median Width (m)	Right of Way (m)	Road marking	Land Use	Rickshaw Road	No. of Leg	Traffic Signal	Traffic Control		
1	1																								
1	2																								
1	3																								
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Divided or not • Yes (Divided) • No (Undivided)	Pavement Type: AC (Asphalt Pavement) ST (Surface Treatment) CC (Cement Concrete) G (Gravel) E (Earth)	Condition • VB (Very Bad) • B (Bad) • F (Fair) • G (Good)	Road Marking • E (Exist) • NE (Non-Exist)	Roadside Land Use • R (Resident) • C (Commercial) • I (Industry) • A (Agriculture) • F (Forest) • U (Un-used)	Rickshaw Road • Yes (Allow to pass) • No (Non-Allow)	Traffic Signal • E (Exist) • NE (Non-Exist)	Traffic Control • TS (Traffic Signal) • PC (Police Control)
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(6) Result of Inventory

The summary result of roads surveyed is shown in Table 10.1-2(1) to Table 10.1-2(6).

Table 10.1-2(1) Result on Inventory Surveyed Roads

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	Sidewalk (m)			
						W/o Improved		Improved	
						Left	Right	Left	Right
1	Mohkhali Gulshan Rd.	Amtoli (km 0)	AC, Good	26.6	6.00	-	-	0-2m	2-4m
		Gulshan 1 (km 1.85)	AC, Good	27.3	6.00	-	-	2-4m	2-4m
		Prahati Sharani (km 2.75)	AC, Fair	18	4.00	-	-	0-2m	0-2m
2	Unnamed	Mirpur Thana (km 0)	AC, Very Bad	4.5	1.00	-	-	-	-
		West Sewapara (km 0.91)	AC, Very Bad	4.5	1.00	-	-	-	-
3	Unnamed	Kachukhet (km 0)	AC, Fair	14.3	2.00	-	-	-	-
		Wara Rd. (km 2.5)	AC, Bad	4.5	1.00	-	-	-	-
		Dharul Eshan University (km 3.52)	AC, Bad	10	2.00	-	-	-	-
5	Unnamed	Khikhet (km 0)	AC, Bad	8	2.00	0-2m	-	-	-
		Tetutale (km 1)	AC, Bad	7	2.00	0-2m	-	-	-
		Isapur (km 7.3)	AC, Fair	7.7	2.00	0-2m	-	-	-
7	Ceramic Rd.	Shaheed Bag (km 0)	AC, Very Bad	23.5	2.00	-	-	-	-
		BRTC Bus Depot (km 1.4)	AC, Very Bad	23.5	2.00	-	-	-	-
		N D C (km 1.79)	AC, Fair	17.5	2.00	-	-	-	-
11	Panitha Path	FDC More (km 0)	AC, Fair	29.85	6.00	-	-	2-4m	2-4m
		Sonarqon Hotel (km 0.9)	AC, Fair	34	6.00	-	-	>4m	>4m
		Russel Square (km 2.55)	AC, Fair	27.2	6.00	-	-	0-2m	0-2m
18	West Embankment Rd.	2nd Burigangar Bridge (km 0)	AC, Very Bad	7.5	2.00	-	-	-	-
		Shahid Nagar Lohar Bridge (km 2.4)	CC, Fair	6.8	2.00	-	-	-	-
		Parbat Cinema Hall More (km 12.3)	AC, Fair	10	2.00	0-2m	-	0-2m	-
		Diya Bari Ghat (km 13.1)	Earth	8	2.00	0-2m	-	0-2m	-
		Abdullapur (km 31.0)	AC, Good	14	2.00	0-2m	-	0-2m	-
19	Bashila Rd.	Pashim Katasur (km 0)	Gravel, Fair	32	2.00	>4m	-	-	-
		3rd Burigangar Bridge E point (km 2.25)	Gravel, Fair	32	2.00	>4m	-	>4m	-
		Gatachar (km 3.4)	Gravel, Fair	32	2.00	>4m	-	>4m	-
22	Unnamed	Uttar-Badda (km 0)	CC, Very Bad	11.7	2.00	0-2m	-	0-2m	-
		Pachim Badda Diya (km 1.4)	Gravel, Very Bad	11.3	2.00	0-2m	-	0-2m	-
		Beraid (km 5.85)	AC, Very Bad	7.9	2.00	0-2m	-	0-2m	-
24	Unnamed	Bashabo (km 0)	AC, Fair	7.3	2.00	0-2m	-	0-2m	-
		Nandipara (km 2)	AC, Bad	7.5	2.00	0-2m	-	0-2m	-
		Durgapur (km 4.75)	AC, Very Bad	5.5	2.00	0-2m	-	0-2m	-
25	Hajaribag Rd.	Gigabola (km 0)	AC, Bad	14.5	2.00	0-2m	-	0-2m	-
		Post Office More (km 0.35)	AC, Bad	14.5	2.00	0-2m	-	0-2m	-
		Saito Lether More (km 0.75)	AC, Bad	6.4	2.00	-	-	-	-
		Hajaribah Bara (km 1.5)	AC, Bad	14.4	2.00	-	-	>4m	-
		Hajaribah Beri Bahh (km 2.4)	CC, Bad	5.5	2.00	-	-	-	-

Table 10.1-2(2) Result on Inventory Surveyed Road (Continued)

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	Sidewalk (m)			
						W/o Improved	Improved	Left	Right
28	Ring Rd.	(km 0)	AC, Bad	27.8	6	-	-	-	-
	Shia Mojid More	(km 1.4)	AC, Fair	30	6	2-4m	204m	2-4m	2-4m
	Bash Bari Sonali	(km 1.8)	CC, Fair	10	2.00	-	-	-	-
29	Unnamed	(km 2.55)	AC, Very Bad	6	2.00	-	-	-	-
	Muhammadpur Bus Stand	(km 0)	AC, Very Bad	7.3	2.00	-	-	-	-
	Nagbagan Section	(km 1.2)	AC, Fair	7.3	2.00	-	-	-	-
38	Unnamed	(km 1.480)	AC, Fair	10.7	2.00	-	-	-	-
	Azimpur Grayard	(km 0)	AC, Fair	17.1	2.00	0-2m	0-2m	-	-
	West Gate of RMC	(km 1.1)	AC, Fair	17.7	2.00	2-4m	2-4m	-	-
39	Unnamed	(km 0)	AC, Fair	18	4.00	-	-	0-2m	0-2m
	Mohammadpur Government Highsch	(km 0.5)	AC, Fair	18	4.00	0-2m	0-2m	-	-
	Sheker Tek Rd.	(km 1.2)	AC, Bad	9.6	2.00	0-2m	0-2m	-	-
43	Zoo Rd.	(km 2.65)	AC, Bad	6	2.00	0-2m	0-2m	-	-
	Noboday Housing Bultan	(km 0)	AC, Fair	34	4.00	>4m	>4m	-	-
	Mirpur Section 2 Roundabout	(km 1.7)	AC, Fair	36	4.00	>4m	>4m	-	-
44	Fazlie Rabbi Road, Zahir Rahan, Sonargaon, Atrir	(km 0)	AC, Fair	21.5	4.00	-	-	2-4m	2-4m
	Ittafag More	(km 1)	AC, Fair	41.8	6.00	-	-	2-4m	2-4m
	Fulbaria More	(km 1.7)	AC, Fair	22.1	4.00	-	-	2-4m	2-4m
45	Unnamed	(km 2.25)	AC, Fair	19	4.00	-	-	0-2m	0-2m
	Bashik Bazar	(km 3.15)	AC, Fair	22.65	4.00	-	-	2-4m	2-4m
	Palashi	(km 6.25)	AC, Fair	22.9	4.00	-	-	2-4m	0-2m
46	Pipe Rd.	(km 7.25)	AC, Good	33.4	6.00	-	-	2-4m	0-2m
	Hotel Sonargaon More	(km 10.6)	AC, Good	31.7	6.00	-	-	0-2m	0-2m
	Farmgate	(km 14.05)	AC, Good	38.1	8.00	-	-	>4m	>4m
47	Unnamed	(km 17.2)	AC, Good	36	8.00	-	-	>4m	>4m
	Chairman Bari	(km 0)	AC, Bad	8.9	2.00	-	-	-	-
	Zia Colohir More	(km 1.65)	AC, Very Bad	6	2.00	-	-	-	-
48	Unnamed	(km 4)	AC, Very Bad	2.8	1.00	-	-	-	-
	Buddist Mundir	(km 0)	AC, Fair	9.5	2.00	-	-	-	-
	Rajarbagh More	(km 2.07)	AC, Fair	9.5	2.00	-	-	-	-
49	Unnamed	(km 1.8)	AC, Good	24.8	4.00	-	-	0-2m	0-2m
	Manikdi	(km 0)	AC, Good	24.8	4.00	-	-	0-2m	0-2m
	Juran Munsil Bari	(km 2.08)	AC, Good	16.5	2.00	-	-	0-2m	0-2m
50	Unnamed	(km 0)	AC, Bad	21.2	4.00	2-4m	2-4m	-	-
	Saydabad Bridge	(km 0.8)	AC, Bad	19.6	4.00	0-2m	0-2m	-	-
	Dayanganj Chowrasla	(km 0)	AC, Fair	23.45	4.00	0-2m	0-2m	-	-
51	Unnamed	(km 0.7)	AC, Fair	23.45	4.00	0-2m	0-2m	-	-
	Surtrapur Hola Bridge	(km 0)	AC, Fair	10.5	2.00	2-4m	0-2m	-	-
	Walter Rd.	(km 3.75)	AC, Bad	5.5	1.00	-	-	-	-
52	Unnamed	(km 6.2)	AC, Bad	8.4	2.00	0-2m	0-2m	-	-
	Dalpur	(km 0)	AC, Very Bad	16.2	2.00	>4m	>4m	-	-
	Abdullapur	(km 0.05)	AC, Fair	7.4	2.00	0-2m	0-2m	-	-
53	Unnamed	(km 7.5)	AC, Fair	5.75	2.00	0-2m	0-2m	-	-
	Moher Tek Bazar	(km 0)	AC, Fair	5.75	2.00	0-2m	0-2m	-	-
	Kumud Khola	(km 0)	AC, Fair	5.75	2.00	0-2m	0-2m	-	-
54	Unnamed	(km 0)	AC, Very Bad	16.2	2.00	>4m	>4m	-	-
	Kakura Bazar	(km 0.05)	AC, Fair	7.4	2.00	0-2m	0-2m	-	-
	Bhaturia	(km 7.5)	AC, Fair	5.75	2.00	0-2m	0-2m	-	-

Table 10.1-2(3) Result on Inventory Surveyed Road (Continued)

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	W/o Improved		Sidewalk (m)	
						Left	Right	Left	Right
63	Unnamed	MDC (km 0)	AC, Good	23.7	2.00	>4m	>4m	-	-
97	Admin Block	(km 0.85)	AC, Good	23.7	2.00	>4m	>4m	-	-
	Hotel Sonargaon More	(km 0)	AC, Good	31.2	8.00	-	-	2-4m	0-2m
	Eskaton Garden	(km 0.45)	AC, Good	31.2	8.00	-	-	0-2m	0-2m
	Shabag	(km 1)	AC, Good	36.2	8.00	-	-	0-2m	0-2m
98	T. S. C. More	(km 1.3)	AC, Good	32.6	8.00	-	-	2-4m	2-4m
	High Court More	(km 3.05)	AC, Good	25.6	6.00	-	-	0-2m	0-2m
	Kalapur	(km 0)	AC, Fair	25.1	4.00	2-4m	2-4m	-	-
	Arambag Police Box	(km 0.45)	AC, Fair	24.7	4.00	2-4m	2-4m	-	-
99	Khilgaon Flyover	(km 0)	AC, Fair	22.55	4.00	2-4m	2-4m	-	-
	Fakirapul	(km 1.25)	AC, Fair	23.2	4.00	0-2m	0-2m	-	-
100	Bango Bhaban	(km 2.7)	AC, Fair	31.2	6.00	-	-	2-4m	2-4m
	Khikhet	(km 0)	AC, Good	52.45	8.00	-	-	>4m	2-4m
	Civil Aviation Headquarter	(km 2.7)	AC, Good	48.25	8.00	-	-	>4m	>4m
	House Building More	(km 5.0)	AC, Good	59.75	8.00	-	-	>4m	>4m
101	Adullapur Crossing	(km 6.45)	AC, Good	36.15	8.00	-	-	2-4m	2-4m
	Mouchak	(km 0)	AC, Good	29.4	6.00	-	-	2-4m	2-4m
	Baridara	(km 6.25)	AC, Good	31.15	6.00	-	-	2-4m	2-4m
	Bashundara	(km 6.60)	AC, Good	40.65	6.00	-	-	2-4m	>4m
102	Kuril Bisha Road	(km 9.0)	AC, Good	29.35	6.00	-	-	>4m	2-4m
	Saidabad, Autish Dibankar	(km 0)	AC, Fair	30	6.00	-	-	2-4m	2-4m
	M. Para	(km 1.45)	AC, Fair	28.5	6.00	-	-	2-4m	2-4m
	Khilgaon Rail Crossing	(km 3.10)	AC, Fair	23.5	6.00	-	-	0-2m	0-2m
103	M.R	(km 5.00)	AC, Fair	27.7	6.00	-	-	0-2m	0-2m
	Jatrabari	(km 0)	AC, Fair	25.45	6.00	>4m	>4m	-	-
	1st Burigangar Bridge	(km 2.6)	AC, Bad	34.4	6.00	>4m	>4m	-	-
	Munshikhola	(km 6.1)	AC, Bad	27.1	6.00	>4m	>4m	-	-
104	Ittafaq More	(km 0)	AC, Good	16.8	4.00	2-4m	2-4m	-	-
	Takatuli	(km 0.7)	AC, Good	21	4.00	2-4m	2-4m	-	-
	Jatrabari	(km 2.20)	AC, Good	34.8	8.00	2-4m	2-4m	-	-
	Shanir A	(km 4.2)	AC, Fair	40.65	4.00	>4m	>4m	-	-
105	S. Board	(km 7.3)	AC, Fair	32.65	4.00	>4m	>4m	-	-
	Jahangir Gate	(km 0)	AC, Good	27	2.00	-	-	0-2m	0-2m
	Garrison Cinema	(km 3.2)	AC, Good	27	2.00	-	-	0-2m	0-2m
	VIP Complex	(km 3.9)	AC, Good	36	2.00	-	-	0-2m	0-2m
	S.M	(km 5.4)	AC, Good	26	2.00	-	-	0-2m	0-2m
	M. L	(km 5.7)	AC, Bad	12	1.00	-	-	-	-
106	Darus Salam Rd.	(km 0)	AC, Good	37.9	6.00	-	-	2-4m	2-4m
	Desko Cafrul	(km 6.2)	AC, Fair	38.1	2.00	-	-	>4m	>4m
107	Mirpur 14	(km 6.8)	AC, Fair	35.1	2.00	-	-	>4m	>4m
	Khamabari	(km 0)	AC, Good	34	6.00	-	-	2-4m	2-4m
	Agargaon	(km 2.2)	AC, Good	34	6.00	-	-	2-4m	2-4m
	Mirpur 10	(km 5.9)	AC, Good	32.4	6.00	-	-	2-4m	2-4m
	Mirpur 11	(km 6.8)	AC, Good	38.4	6.00	-	-	>4m	>4m
	Mirpur 12	(km 8.1)	AC, Fair	32.4	6.00	-	-	>4m	>4m

Table 10.1-2(4) Result on Inventory Surveyed Road (Continued)

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	W/o Improved		Sidewalk (m)	
						Left	Right	Left	Right
108	Mirpur Rd.		AC, Fair	37.5	8.00	-	-	2.4m	2.4m
			AC, Good	38.2	8.00	-	-	2.4m	2.4m
			AC, Fair		36	-	-	2.4m	2.4m
			AC, Fair		33.9	-	-	0.2m	0.2m
109	Gulshan Avenue-Teqoan Gulshan Link		AC, Fair	18.6	4.00	-	-	2.4m	2.4m
			AC, Fair		18.2	-	-	0.2m	0.2m
			AC, Good		29.7	-	-	2.4m	2.4m
110	Madani Avenue		AC, Good	23.15	6.00	-	-	2.4m	2.4m
			AC, Good		23.7	-	-	2.4m	2.4m
111	Kamal Attaturk Avenue		AC, Good	24.4	6.00	-	-	0.2m	0.2m
			AC, Good		24.5	-	-	2.4m	2.4m
112	Shahid Tajuddin Rd.		AC, Good	30.3	6.00	-	-	2.4m	2.4m
			AC, Good		34.9	-	-	2.4m	2.4m
			AC, Good		37.3	-	-	>4m	>4m
			AC, Good		32.8	-	-	2.4m	2.4m
113	Agargaon Rd.		AC, Good	26.4	4.00	-	-	2.4m	2.4m
			AC, Good		26.4	-	-	2.4m	2.4m
			AC, Good		22.9	-	-	2.4m	2.4m
114	Lake Rd.		AC, Good	27.6	4.00	-	-	2.4m	2.4m
			AC, Good		27.6	-	-	2.4m	2.4m
115	Manik Mia Avenue		AC, Good	60	8.00	-	-	2.4m	2.4m
			AC, Good		60	-	-	2.4m	2.4m
			AC, Fair		23.8	-	-	2.4m	2.4m
116	Green Rd.		AC, Fair	20.8	4.00	-	-	2.4m	2.4m
			AC, Fair		20.8	-	-	2.4m	2.4m
117	Asad Avenue		AC, Fair	24	4.00	-	-	2.4m	2.4m
			AC, Fair		22	-	-	2.4m	2.4m
118	Road No.16		AC, Good	24	4.00	-	-	2.4m	2.4m
			AC, Good		24	-	-	2.4m	2.4m
119	Sat Majid Rd.		AC, Good	40	6.00	-	-	0.2m	0.2m
			AC, Good		40	-	-	2.4m	2.4m
120	Road No.2		AC, Fair	23.7	4.00	-	-	2.4m	2.4m
			AC, Good		23.7	-	-	2.4m	2.4m
121	New Eskaton Rd.		AC, Good	25.5	6.00	-	-	2.4m	2.4m
			AC, Good		25.5	-	-	2.4m	2.4m
122	New Circular Rd.		AC, Good	25.8	6.00	-	-	2.4m	2.4m
			AC, Fair		26.2	-	-	2.4m	2.4m
123	Outer Circular Rd.		AC, Fair	26.5	6.00	-	-	2.4m	2.4m
			AC, Fair		28.3	-	-	2.4m	2.4m
124	Sir Captain Munsir Sharani		AC, Good	26.9	6.00	-	-	2.4m	2.4m
			AC, Good		26.5	-	-	2.4m	2.4m
			AC, Good		24.7	-	-	2.4m	2.4m
125	Kakrail Rd.		AC, Good	36.4	6.00	-	-	>4m	>4m
			AC, Good		35.55	-	-	2.4m	2.4m

Table 10.1-2(5) Result on Inventory Surveyed Road (Continued)

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	Sidewalk (m)			
						W/o Improved Left	W/o Improved Right	Improved Left	Improved Right
126	Kakrail VIP Rd.	Sharag Bhaban More (km 0)	AC, Good	25.2	6.00	-	-	2-4m	2-4m
		Bijoy Nagar More (km 0.95)	AC, Good	37.3	6.00	-	-	2-4m	2-4m
		Arambag Police Box (km 2.4)	AC, Good	33.4	6.00	-	-	2-4m	2-4m
127	Tovenbee Circular Rd.	Shapla Circle (km 0)	AC, Good	37.6	6.00	-	-	2-4m	2-4m
		Navatpolton (km 1.55)	AC, Good	37.6	6.00	-	-	2-4m	2-4m
128	Motijhell Rd.	Shapla Motijhell (km 0)	AC, Good	37	6.00	-	-	2-4m	2-4m
		Dainik Bangla (km 1.28)	AC, Good	37	6.00	-	-	2-4m	2-4m
129	Folder Street	Bangla Homeopathic Medical College (km 0)	AC, Good	22	4.00	-	-	2-4m	2-4m
		Dayanganj (km 0.5)	AC, Good	21	4.00	-	-	0-2m	0-2m
		Dayanganj Rail Crossing (km 1.9)	AC, Good	18.2	4.00	-	-	0-2m	0-2m
130	Marul Islam Sharani	Fulbaria (km 0)	AC, Fair	28.3	4.00	-	-	2-4m	2-4m
		GPO (km 0.4)	AC, Fair	28.3	4.00	-	-	2-4m	2-4m
		Paltan (km 0.7)	AC, Fair	38.3	6.00	-	-	2-4m	2-4m
131	College Rd.	Kakrail (km 1.45)	AC, Fair	28.2	4.00	-	-	2-4m	2-4m
		Fulbaria (km 0)	AC, Good	26.5	4.00	-	-	2-4m	2-4m
		High Court More (km 0.67)	AC, Good	26.5	4.00	-	-	2-4m	2-4m
		Ramna (km 1.0)	AC, Good	24.2	4.00	-	-	2-4m	2-4m
132	Minto and Hare Rd.	Hotel Sheraton (km 0)	AC, Good	30.4	6.00	-	-	2-4m	0-2m
		DPHE Bhaban (km 1.05)	AC, Good	26.5	6.00	-	-	0-2m	2-4m
133	Bashani Rd.	Matshaw Bhaban (km 0)	AC, Good	29.7	4.00	-	-	2-4m	2-4m
		BARDEM (km 0.9)	AC, Good	29.7	4.00	-	-	2-4m	2-4m
134	Shabab Rd.	BSMMU (km 0)	AC, Good	25	4.00	-	-	2-4m	2-4m
		Kataban (km 0.7)	AC, Good	25	4.00	-	-	2-4m	2-4m
135	New Elephant Rd.	Kataban (km 0)	AC, Good	24.5	4.00	-	-	0-2m	0-2m
		Science Laboratory (km 0.6)	AC, Good	25	4.00	-	-	2-4m	0-2m
136	Milkhet Rd.	Milkhet (km 0)	AC, Good	27.3	4.00	-	-	2-4m	2-4m
		TSC (km 0.9)	AC, Good	28.2	4.00	-	-	2-4m	2-4m
		Shahid Minar (km 1.9)	AC, Good	22.8	4.00	-	-	2-4m	2-4m
137	Azipur Gravard	A.G.Y.J (km 0)	AC, Fair	20.4	4.00	-	-	0-2m	0-2m
		Doyel Shatar D U (km 1.89)	AC, Good	25.7	4.00	-	-	2-4m	2-4m
138	Azipur Rd.	Postalabagh (km 0)	AC, Bad	9.4	2.00	-	-	-	-
		Lalbag Fort (km 0.2)	AC, Fair	8.1	2.00	-	-	-	-
		Azipur (km 0.9)	AC, Fair	19.9	4.00	-	-	2-4m	2-4m
		New Market (km 2.07)	AC, Fair	27.7	6.00	-	-	2-4m	2-4m
139	Miford Rd.	Babu Bazar (km 0)	AC, Very Bad	11	2.00	-	-	-	-
		Lalbag Fort (km 1.5)	AC, Bad	7	2.00	-	-	-	-
140	Sir Saved Rd.	Jangannath (km 0)	AC, Good	20	2.00	-	-	2-4m	2-4m
		Chankarpool (km 0.7)	AC, Good	20.5	2.00	-	-	2-4m	2-4m
141	Nawab Yousurf Rd.	Yoursurf Market (km 0)	AC, Fair	36.6	6.00	-	-	0-2m	0-2m
		English Rd. (km 0.98)	AC, Fair	31.7	4.00	-	-	0-2m	0-2m
142	Topkhana Rd.	High Court (km 0)	AC, Good	28.2	4.00	-	-	2-4m	2-4m
		Purana Paltan (km 0.59)	AC, Good	28.2	4.00	-	-	2-4m	2-4m
144	Abdul Gani Rd.	Zero point (km 0)	AC, Good	41.7	6.00	-	-	2-4m	2-4m
		High Court (km 0.8)	AC, Good	34.4	6.00	-	-	2-4m	2-4m

Table 10.1-2(6) Result on Inventory Surveyed Road (Continued)

Invent. No.	Road Name	Road Length(km)	Pavement Type Surface Condition	ROW width(m)	No. of Lane	W/o Improved		Sidewalk (m)	
						Left	Right	Left	Right
145	Phoenix Rd.	G.S.M (km 0)	AC, Fair	22.5	4.00	-	-	2-4m	2-4m
	Fulbaria	(km 0.8)	AC, Fair	22.5	4.00	-	-	2-4m	2-4m
146	Nawabpur Rd.	Gulistan (km 0)	AC, Bad	16	2.00	-	-	0-2m	0-2m
	English Rd.	(km 1)	AC, Fair	16	2.00	-	-	0-2m	0-2m
147	North South Rd.	Taiti Bazar More (km 0)	AC, Good	26.1	4.00	-	-	0-2m	0-2m
	Gulistan	(km 1)	AC, Good	26.1	4.00	-	-	0-2m	0-2m
148	Johnson Rd.	Sadarqhat (km 0)	AC, Good	15.4	2.00	-	-	2-4m	2-4m
	English Rd.	(km 0.8)	AC, Good	17.5	2.00	-	-	0-2m	0-2m
149	Patutulia Rd.	Bangla Bazar (km 0)	AC, Bad	8	2.00	-	-	-	-
	Patotuli	(km 1.1)	AC, Fair	8	2.00	-	-	-	-
150	Islampur Rd.	Patotuli (km 0)	AC, Fair	8	2.00	-	-	-	-
	Bazu Bazar	(km 0.8)	AC, Fair	8	2.00	-	-	-	-
151	Banalee Rd.	Jubilee School (km 0)	AC, Fair	12.5	2.00	-	-	-	-
	Sultrapur	(km 0.8)	AC, Bad	12.5	2.00	-	-	-	-
	End of BK Bazar	(km 1.9)	AC, Bad	7.5	2.00	-	-	-	-
152	Shahid Faruque Rd.	Jatrabari (km 0)	AC, Fair	26.3	4.00	-	-	>4m	>4m
	Doyangani Bazar	(km 0.9)	AC, Fair	19.6	4.00	-	-	2-4m	2-4m
	Doyangani Natun Sharak	(km 1.25)	AC, Fair	5.7	2.00	-	-	-	-
152	Dholai Khal Rd.	RaiShahab Bazar More (km 0)	AC, Fair	30.9	6.00	-	-	2-4m	2-4m
	Narinda More	(km 0.8)	AC, Fair	30.7	6.00	-	-	2-4m	2-4m
153	Demra Rd.	Jatrabari (km 0)	AC, Good	29.4	2.00	-	-	>4m	0-2m
	Mridha Buri Bus Stand	(km 1.8)	AC, Good	22.2	2.00	-	-	>4m	>4m
	Konapara	(km 2.35)	AC, Good	9	2.00	-	-	>4m	>4m
	Demra Chourasta	(km 6.4)	AC, Good	46	2.00	-	-	>4m	>4m

10.2 Review of STP Road Development Plan

In this study, the STP should be selected for reviewing its road development projects or plans inside Dhaka Metropolitan Area as well as RAJUK area.

A major objective of the STP was to establish a sound policy framework to ensure the sustainability of the current and future investments in transport sector. Critical to this objective, is the preparation of a long-term (20 years) STP for Dhaka Metropolitan Area that establishes a multi-modal transport plan based on an assessment of the inter-relationship between land use and transportation. It also carried out road development plan study for the target year 2024.

The implementation program has been divided into four periods of 5 years each, beginning in 2005 and ending in 2024.

The road development project plan covers DCC, DMA and outside DMA (RAJUK area). The DHUTS needs to find out the progress and achievement of road development based on STP proposal in 4 phases.

10.2.1 Highway Scheme in Phase 1 (2005-2009)

The first phase of the development was scheduled for five years (2005-2009) covering the period immediately after the STP was approved by the Government. This is a critical time since the momentum gained by undertaking the STP study should not be lost. It is essential to move forward immediately if the long term plan is to be achieved in a meaningful way. For this reason, efforts should be concentrated on those projects which are in advanced stages of readiness and which will bring immediate benefits from their implementation.

In this phase, road project plans are mainly focused in Dhaka City Corporation. In considering this scheme, the activities of road development are completed and are in progress. The elevated expressway, Mogh bazaar flyover and Jatrabari Flyover are still under the proposal from DCC, DTCB and RHD, but they are taken into consideration for future transport network in the urbanized area. Table 10.2-1 shows the progress/achievement of the STP road plan in target year 2009.

Table 10.2-1 List of Highway scheme in phase 1(2005-2009)

I/D	Name	Estimate Cost (\$m)	Present Status(2009)	Responsible Agency	Remark
7	Zia Colony – Mirpur	14	On going	DCC	-
11	Panthapath – Rampura (Viaduct Road)	67	On going	RAJUK	-
12	Tejgaon Airport Tunnel	50	Completed	DCC	Instead of Tunnel, Bypass Road was constructed
13	Merul Badda - Golakandial	9	Proposed	RHD	Upgrading
15	Tongi - Ghorashal	8	On going	RHD	A flyover is under

I/D	Name	Estimate Cost (\$m)	Present Status(2009)	Responsible Agency	Remark
					construction
24	Malibagh - Janapath	20	Proposed	RAJUK	New Road
44	Elevated Expressway	15	Proposed	RHD	-
52	Gulistan – Jatrabari Flyover	6	Committed	DCC	-
64	Mogh Bazaar Flyover	2	Committed	DCC/RHD	-
Total		191			

10.2.2 Highway Scheme in Phase 2 (2010-2014)

The following action plan of road development project from phase 1 are considered and mentioned in phase 2. Table 10.2-2 shows the road project status in phase 2.

Table 10.2-2 List of Highway scheme in phase 2(2010-2014)

I/D	Name	Estimate Cost (\$m)	Present Status(2009)	Responsible Agency	Remark
2	Argagaon Road to Mirpur Section 2	24	Proposed	DCC	New Road
3	Bangla College to Kafrul	40	Proposed	DCC	New Road /Upgrading
8	Bijoy Saroni – Shaheed Tazuddin Rd	15	On going	RAJUK	-
15	Tongi - Ghorashal	11	Completed	RHD	-
18	Circular Ring Road	8	Ongoing/ Proposed	RHD	Upgrading /Widening
25	Jikatala - Hazaribag	3	Proposed	RAJUK	Widening
27	Muhammadpur Bus Stand – Embankment	1	Proposed	DCC	Upgrading /Widening
28	Muhammadpur Shia Mosque - Embankment	1	Proposed	DCC	Upgrading /Widening
29	Azimpur - Embankment	3	Proposed	DCC	Upgrading /Widening
33	Uttara 10 - Embankment	2	Proposed	RAJUK	New Road
42	Mirpur 14 (Sagorika) to New Airport Road Banani	6	Proposed	DCC	New Road
43	Mirpur Zoo - Embankment	1	Proposed	DCC	New Road
44	Elevated Expressway	315	Proposed	RHD	-
52	Gulistan – Jatrabari Flyover	114	Proposed	DCC	-
54	Eastern Embankment	300	Committed	BWDB	-
58	Jatrabari Bridge – Polder Rd	10	Proposed	RHD	Widening
63	Pallabi – Western Embankment	3	Proposed	DCC	New Road
64	Mogh Bazaar to Mouchak Flyover	24	Proposed	DCC	-
Total		881			

10.2.3 Highway Scheme in Phase 3 (2015-2024)

The STP recommended long-term road development projects in the target year 2024. The important of them are several east-west connecting roads, radial roads along flood control embankment surrounding the City areas and Narayanganj alongside the circular waterways, construction of Eastern Fringe, Dhaka Bypass, new north-south connections through newly filled areas of eastern part of Dhaka, Western Bypass from Savar to Dhaka Mawa Road, in order to form the circumference roads in the RAJUK. Meanwhile, the STP has divided into 2 two terms: phase 3A (2015-2019) and phase 3B (2020-2024). The Highway list scheme and process of such phases are shown in Table 10.2-3 and Table 10.2-4.

Table 10.2-3 List of Highway scheme in phase 3A (2015-2019)

I/D	Name	Estimate Cost(\$m)	Present Status(2009)	Responsible Agency	Remark
4	Ashulia – Aricha Rd	1	Proposed	LGED	Upgrading /Widening
5	Khilkhet – Eastern Bypass	4	Ongoing/Proposed	RHD	Upgrading /Widening
6	Eastern Bypass – Dhaka Bypass	15	Proposed	RHD	New Road
9	Konakhola - Hazratpur	13	Completed	RHD	-
14	Bashaboo Mosque – Balu River	30	Proposed	RAJUK	New Road
19	Muhamadpur - Keraniganj	6	Proposed	RHD	Upgrading /Widening/ New Road
23	Eastern Bypass	100	Proposed	RHD	New Road
26	Moghbazar - Malibagh	2	Proposed	RAJUK	New Road
30	Western Bypass	62	Proposed	RHD	New Road
34	Muktarpur Bridge	31	Completed	RHD	-
35	Buriganga Bridge at Basilia	13	Completed	RHD	-
37	Keodata Bridge over Balu River	1	Proposed	RHD	New Bridge
59	Berulia - Ashulia	24	Proposed	RHD	Widening
62	Dhaka Link Road	11	On going	RHD	Upgrading /Widening
69	Jatrabari – Demra Ghat	5	Proposed	RHD	Widening
Total		318			-

Table 10.2-4 List of Highway scheme in phase 3B (2020-2024)

I/D	Name	Estimate Cost (\$m)	Present Status(2009)	Responsible Agency	Remark
10	Hazratpur - Hemeyetpur	12	On going	RHD	Upgrading /Widening/ New Road
16	Fatullah – Munshigank	10	Completed	RHD	-

I/D	Name	Estimate Cost (\$m)	Present Status(2009)	Responsible Agency	Remark
17	Hemayetpur - Manikganj	11	On going	RHD	Upgrading /Widening/ New Road
21	NMT Road - Bangladesh Rifles	0.25	Proposed	DCC	New Road
22	Progati Sarani – Balu River	8	Proposed	RAJUK	Upgrading /Widening/ New Road
31	Mitijhee – Kamalapur	0.25	Proposed	DCC	Widening
32	Pallabi – Uttara 3	6	Proposed	RAJUK	New Road
36	Demra Bridge	14	On going	RHD	-
39	Mohamadpur – Mirpur Rd	0.5	Proposed	DCC	Widening /New Road
40	Krishi Market – Western Embankment	1	Proposed	DCC	Widening /New Road
45	Bashaboo Rd - Manikdi	24	Proposed	RAJUK	Upgrading /Widening/ New Road
55	Uttara 8 – Balu River	1	Proposed	RAJUK	Upgrading /Widening
56	Uttara 4 – Balu River	1	Proposed	RAJUK	Upgrading /Widening
57	Savar EPZ - Western Bypass	1	Proposed	RHD	New Road linked to Western Bypass
70	Connector to Buriganga Bridges 1 & 2	1	Proposed	RHD	New Road
74	ICD – Buriganga Bridge Road		Proposed	BIWTA	New
Total		117			-

After reviewing STP, the DHUTS pointed out that the government of Bangladesh takes action of Highway Projects based on STP recommendation to ease the transportation flow in the RAJUK as well as in the country. Considering the 4 phases proposed by the STP, the road projects were mainly developed in the RAJUK area in which RHD roads were taken into consideration. Dhaka Bypass has been completed, the major bridges like Murtapur, Buriganga were completed and the Demra Bridge is ongoing. Regarding to DMA, the RAJUK road connecting from Kuril to Purbachal is still under construction. The extension of Patha Path is also under construction.

Eastern Fringe Road (started from Tongi to Narayanganj), western bypass and southern bypass shall be considered as priority to form the ring road in the RAJUK area and to prevent the unnecessary traffic enters the DCC area.

10.3 Flyover Projects

(1) Traffic Count Surveyed Conducted

The DHUTS has conducted the traffic count survey at the 20 junctions (see Figure 10.3-1) in DMA

in order to realize on current traffic congestion in such urbanized area.

(2) Schedule

Two steps of surveys have been conducted.

a) First Step (18 Locations)

Date Started: 31st May 2009, Date Ended: 24th June 2009

b) Second Step (2 Locations- Gulshan 1 and 2)

Date Started: 4th January 2010, Date Ended: 5th January 2010

(3) Selected Junctions for Flyover Projects

Among the 20 locations, five of them are selected as the major bottlenecks and are needed improving by flyover projects based on the logical criteria. Table 10.3-1 shows the criteria for selecting intersections to be improved and Table 10.3-2 shows the evaluation results.

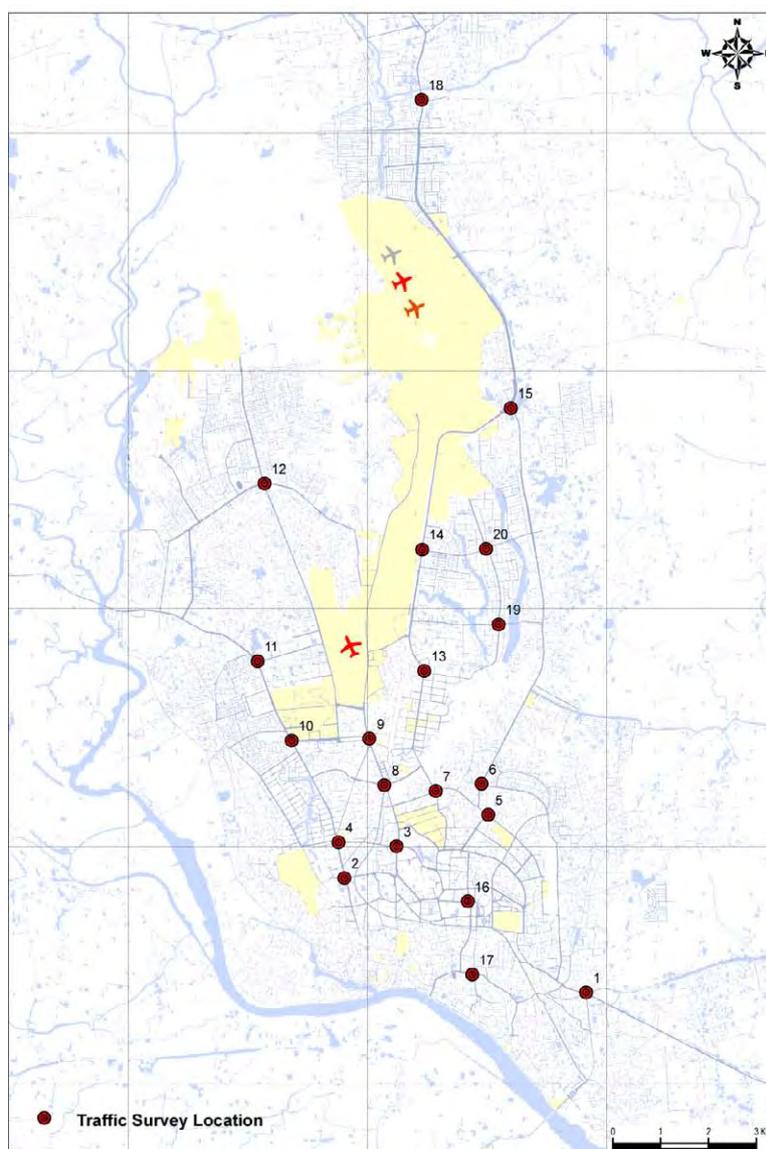


Figure 10.3-1 Locations of Traffic Count Survey

Table 10.3-1 Ranking Criteria for Selecting Bottlenecks to be Improved

Criteria		5 points	3 points	1 point	Remarks	
Necessity	Traffic					
		Total Peak Hour Traffic Volume	More Than 9,000	More Than 6,000	More Than 3,000	Current pcu/hr
		Through Traffic Volume	More Than 50%	More Than 40%	More Than 30%	Grade Separation for Through Traffic
		Right Turn Traffic Volume	More Than 50%	More Than 40%	More Than 30%	Grade Separation for Right Turn Traffic
	Volume	Cat-1&2 (2/3W) Traffic Volume	Less Than 10%	Less Than 20%	Less Than 30%	Not Recommendable for More Than 30%
		Cat-3 (LV) Traffic Volume	More Than 50%	More Than 40%	More Than 30%	Not Recommendable for Less Than 30%
		Cat-4&5 (MV&HV) Traffic Volume	Less Than 10%	Less Than 20%	Less Than 30%	Not Recommendable for More Than 30%
		Flyover / Underpass	Less Than 0.75	Less Than 1.0	Less Than 1.25	After Construction
	Efficiency	Ratio	Less Than 1.00	Less Than 1.25	Less Than 1.50	- Ditto -
		Required Number of Lane for Flyover/Underpass	2 Lanes	4 Lanes	6 Lanes	Not Recommendable for More Than 8 Lanes
Right of Way		More Than 45m (150ft)	More Than 36m (120ft)	More Than 27m (90ft)	Not Recommendable for Less Than 27m (90ft)	
Required Cost (Length of Flyover/Underpass)		Less Than 30 M.USD (Less Than 0.5 km)	Less Than 50 M.USD (Less Than 1.0 km)	More Than 100 M.USD (Less Than 1.5 km)	Depending on Required Width	
Extendibility	Other Same Route Projects	1 Point	2 Points	3 Points		
		Expressway	BRT / MRT	None	Including Other Donor / Local Authority Projects	

Table 10.3-2 Evaluation Results of Surveyed Junctions

Proposed Grade Separation Location	Peak Hour Traffic Volume by Classification (pcu/hr)						Cap.	Traffic Movements (pcu/hr)				Current Road Width	Required No. of Lane	Other Projects			Total	Ranking
	2/3W NMT	2/3W MT	LV	MV	HV	All		Major Streets		Minor Streets				Express way	BRT	MRT		
								TH	RT	TH	RT							
1 Jatrabari-Saidabad (19h:00-20h:00)	1,110	488	1,451	2,151	168	5,368	6,000	2,944	586	196	881	36m	4	Y	Y	Y		19
	27%	9%	27%	40%	3%	100%	0.89	55%	11%	4%	16%							
	1		1			1		5										
2 New Market (10h:00-11h:00)	1,389	354	1,604	777	6	4,130	4,500	1,261	204	1100	809	27.7m	2	N	Y	N		18
	34%	9%	39%	19%	0%	100%	0.92	31%	5%	27%	20%							
	0		4			1		1										
3 Shabagh (18h:00-19h:00)	88	973	2,821	2,035	4	5,921	6,000	1,832	540	1728	866	36m	4	N	N	Y		14
	1%	16%	48%	34%	0%	100%	1.07	31%	9%	29%	15%							
	3		3			1		1										
4 Science Laboratory (17h:00-18h:00)	989	906	2,848	1,745	4	6,492	6,000	4,102	185	0	1721	40m	4	Y	Y	N		6
	17%	15%	48%	29%	0%	110%	1.08	63%	3%	0%	27%							
	3		4			3		5										
5 Malibagh (19h:00-20h:00)	2,875	246	769	647	4	4,541	4,500	1,609	369	0	1486	24-27m	4	Y	Y	N		17
	63%	5%	17%	14%	0%	100%	1.07	35%	8%	0%	33%							
	0		3			4		4										
6 Malibagh Rail Crossing (17h:00-18h:00)	1,913	342	1,069	773	102	4,199	6,000	2,944	1,008	0	501	29m	4	N	Y	N		14
	46%	8%	25%	18%	2%	100%	0.70	70%	24%	0%	12%							
	0		3			1		6										
7 Mogh Bazar (16h:00-17h:00)	476	955	2,456	1,025	22	4,934	4,500	2,920	225	810	638	30m	2	N	Y	N		2
	10%	19%	50%	21%	0%	100%	1.10	59%	5%	16%	13%							
	3		6			3		5										
8 Hotel Sonargaon (8h:00-9h:00)	61	1,497	5,499	2,277	24	9,358	6,000	5,826	1,363	846	384	36m	4	N	N	Y		2
	1%	16%	59%	24%	0%	100%	1.56	62%	15%	9%	4%							
	3		6			3		5										
9-1 Farmgate_Kamabari (11h:00-12h:00)	8	680	1,830	1,034	18	3,570	6,000	2,534	0	0	904	33m	4	Y	N	Y		13
	0%	19%	51%	29%	1%	100%	0.595	71%	0%	0%	25%							
	3		4			1		5										
9-2 Farmgate_Tejgaon (11h:00-12h:00)	15	1,202	2,864	1,415	114	5,610	6,000	1,560	0	0	0	33m	4	Y	N	Y		21
	0%	21%	51%	25%	2%	100%	0.935	28%	0%	0%	0%							
	1		4			1		0										
10 Manik Mir Avenue (11h:00-12h:00)	39	1,034	4,525	2,007	6	7,611	6,000	3,441	1,480	0	938	35-38m	4	Y	Y	N		6
	1%	14%	59%	26%	0%	100%	1.27	45%	19%	0%	12%							
	3		6			3		3										
11 Shishu Mela (11h:00-12h:00)	180	1,359	2,737	1,523	26	5,825	6,000	3,927	424	0	912	38m	4	Y	Y	N		8
	3%	23%	47%	26%	0%	100%	0.97	67%	7%	0%	215%							
	1		4			4		5										
12 Mirpur 10 (9h:00-10h:00)	213	530	1,688	1,403	18	3,852	4,500	1,380	339	981	384	32-38m	4	N	N	Y		14
	6%	14%	44%	36%	0%	100%	0.86	36%	9%	25%	10%							
	3		3			1		1										
13 Nabisco (19h:00-20h:00)	127	920	2,441	1,226	42	4,756	4,500	3,345	994	0	274	24-27m	4	N	Y	N		8
	3%	19%	51%	26%	1%	100%	1.06	70%	21%	0%	6%							
	3		5			1		5										
14 Katkoli (9h:00-10h:00)	43	687	3,212	1,829	2	5,773	6,000	4,114	1,209	0	205	37-38m	4	Y	Y	N		8
	1%	12%	56%	32%	0%	100%	0.96	71%	21%	0%	4%							
	3		5			1		5										
15 Kuril (19h:00-20h:00)	19	839	4,498	2,541	464	8,361	6,000	6,209	200	0	1080	36m	4	Y	Y	N		4
	0%	10%	54%	30%	6%	100%	1.39	74%	2%	0%	13%							
	3		6			3		5										
16 GPO (17h:00-18h:00)	921	702	1,986	1,655	54	5,318	4,500	2,712	625	1,606	222	37-41m	4	N	N	N		11
	17%	13%	37%	31%	1%	100%	1.18	51%	12%	30%	4%							
	3		1			1		5										
17 English Road (11h:00-12h:00)	2,110	189	672	423	10	3,404	4,500	1,804	234	473	695	24-27m	2	N	Y	N		11
	62%	6%	20%	12%	0%	100%	0.76	53%	7%	14%	20%							
	0		3			3		5										
18 Abdullapur (19h:00-20h:00)	460	235	1,609	2052	76	4,432	6,000	1,516	1701	0	675	36m	4	Y	N	N		19
	10%	5%	36%	46%	2%	100%	0.74	34%	38%	0%	15%							
	3		1			1		1										
19 Gulshan-1 (17h:00-18h:00)	75	725	3415	204	0	4,419	4,500	2,198	541	1198	340	30m	2	N	N	N		1
	2%	16%	77%	5%	0%	100%	0.98	50%	12%	27%	8%							
	3		5			4		5										
20 Gulshan-2 (17h:00-18h:00)	143	610	3462	119	0	4,334	4,500	1,267	744	1401	674	30m	2	N	N	N		4
	3%	14%	80%	3%	0%	100%	0.96	29%	17%	32%	16%							
	3		5			4		1										

(4) Locations of Flyover Project Plan

The five (5) locations to be improved by flyover are Mogh Bazar, Gulshan-1 and 2, Kuril, and Sonargaon to Sheraton Area. Figure 10.3-2 shows the locations of flyover plan proposed by DHUTS.

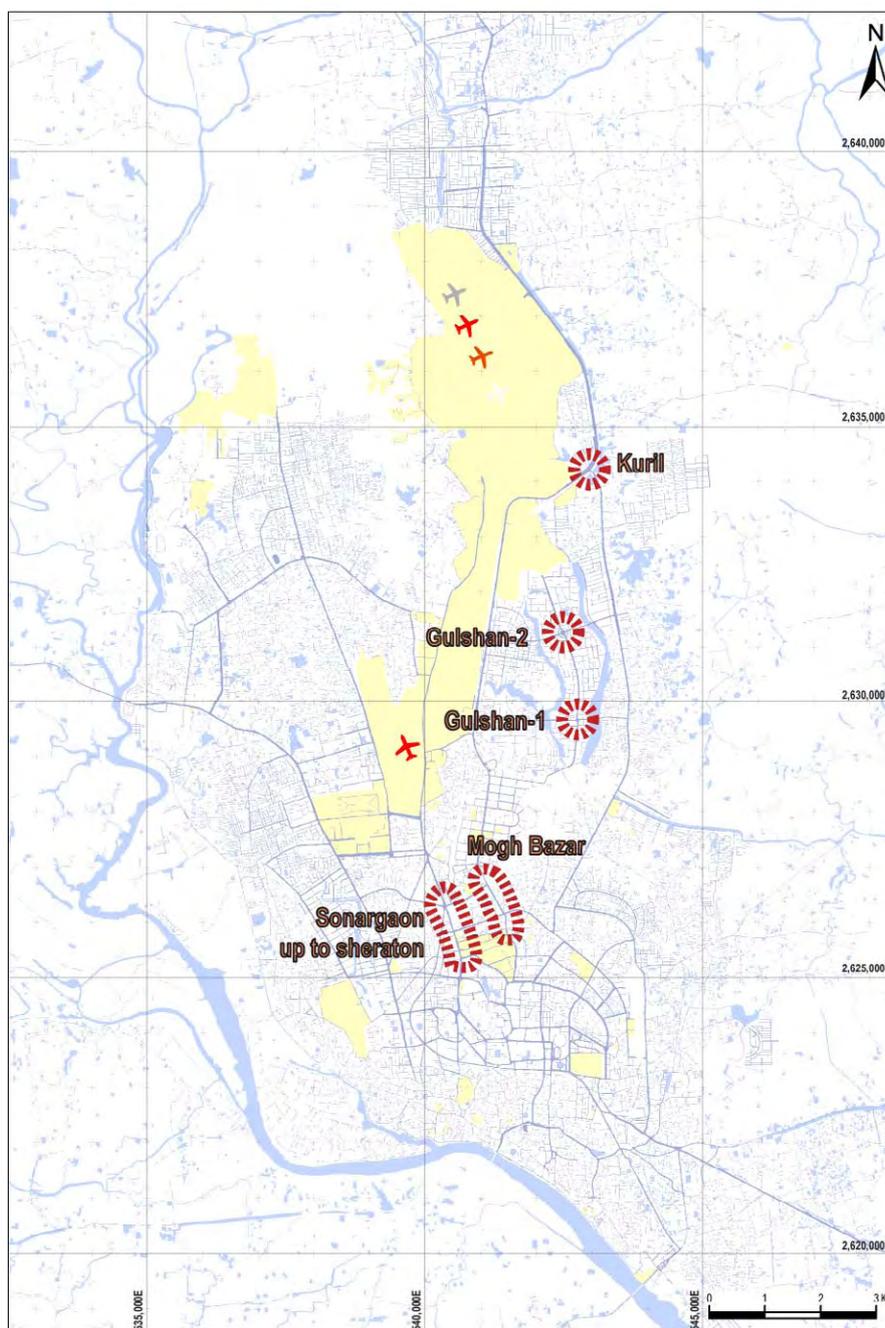


Figure 10.3-2 Major Bottleneck Intersections

(5) Layout Plan, Profile and Cross Section

The line profiles, cross section and photos for five flyover plan are shown in the following figures, respectively.

a) Mogh Bazar Flyover Plan

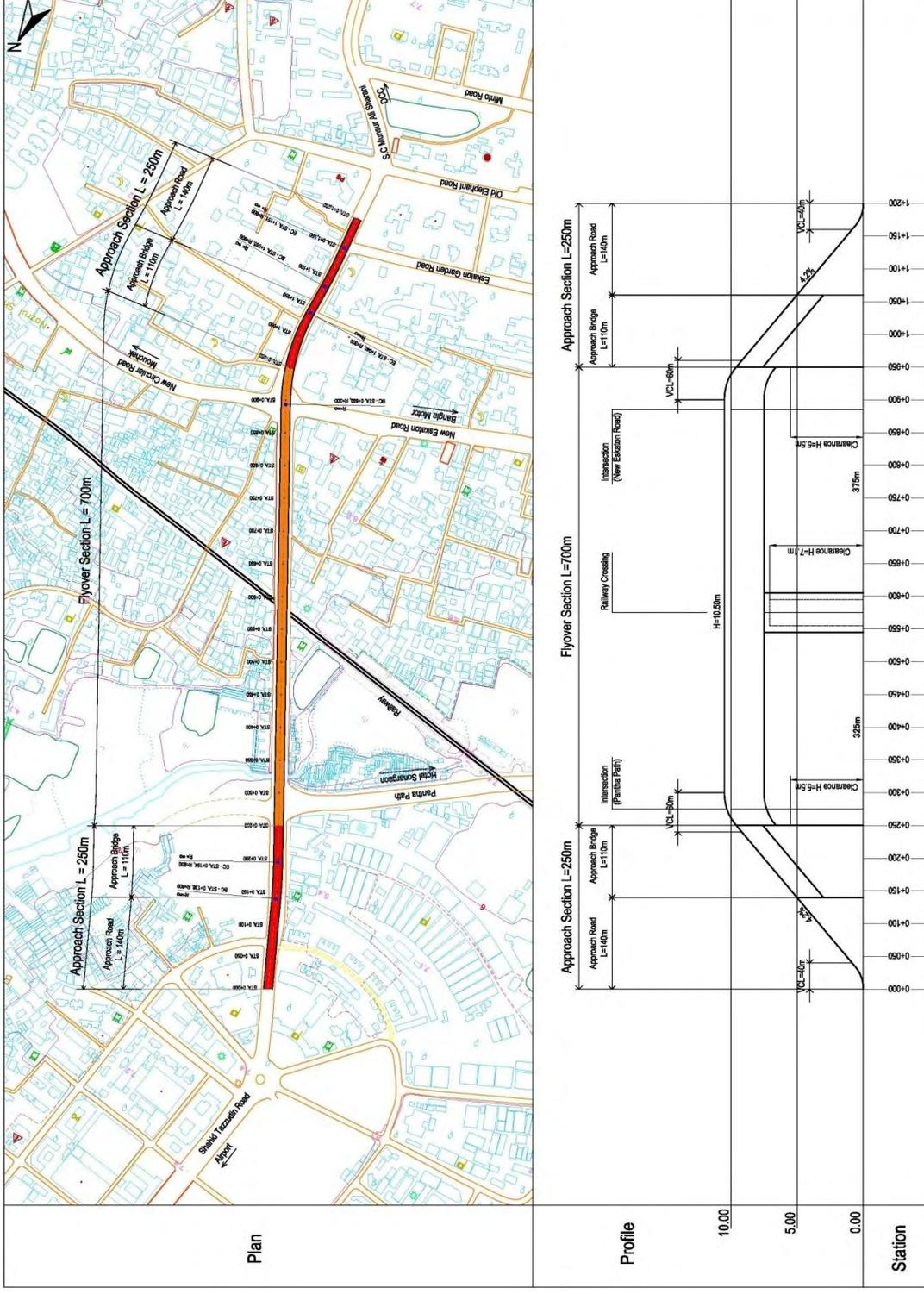


Figure 10.3-3 Layout Plan and Profile

Shaheed Tazuddin Road



S. Captain Munsur Ali Sharani Street



New Circular Road



New Eskaton Road



Figure 10.3-4 Photos on Each Approach Roads at Mogh Bazar Intersection

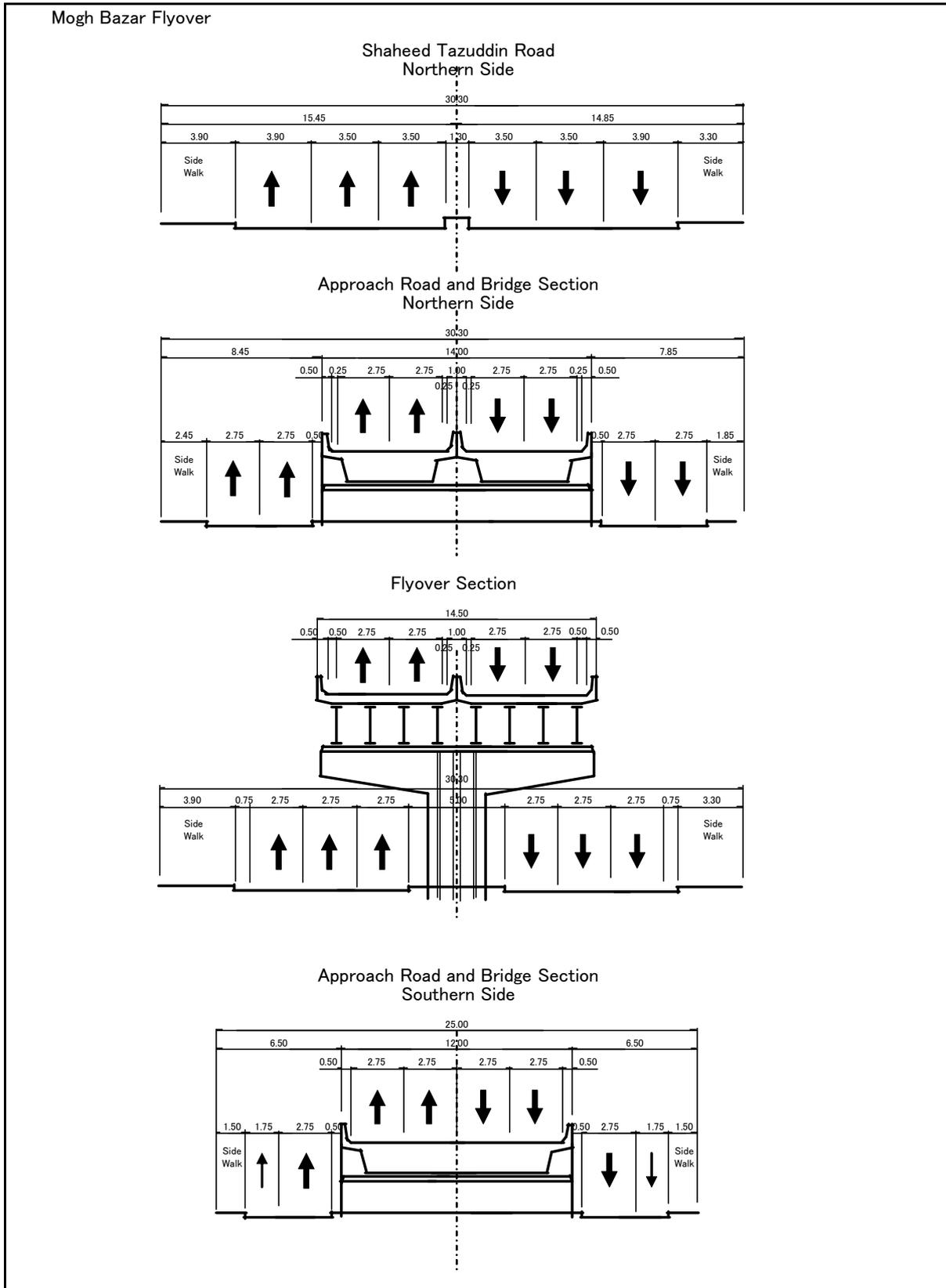


Figure 10.3-5 Cross Section of Mogh Bazar Flyover Plan

b) Sonargaon Flyover Plan

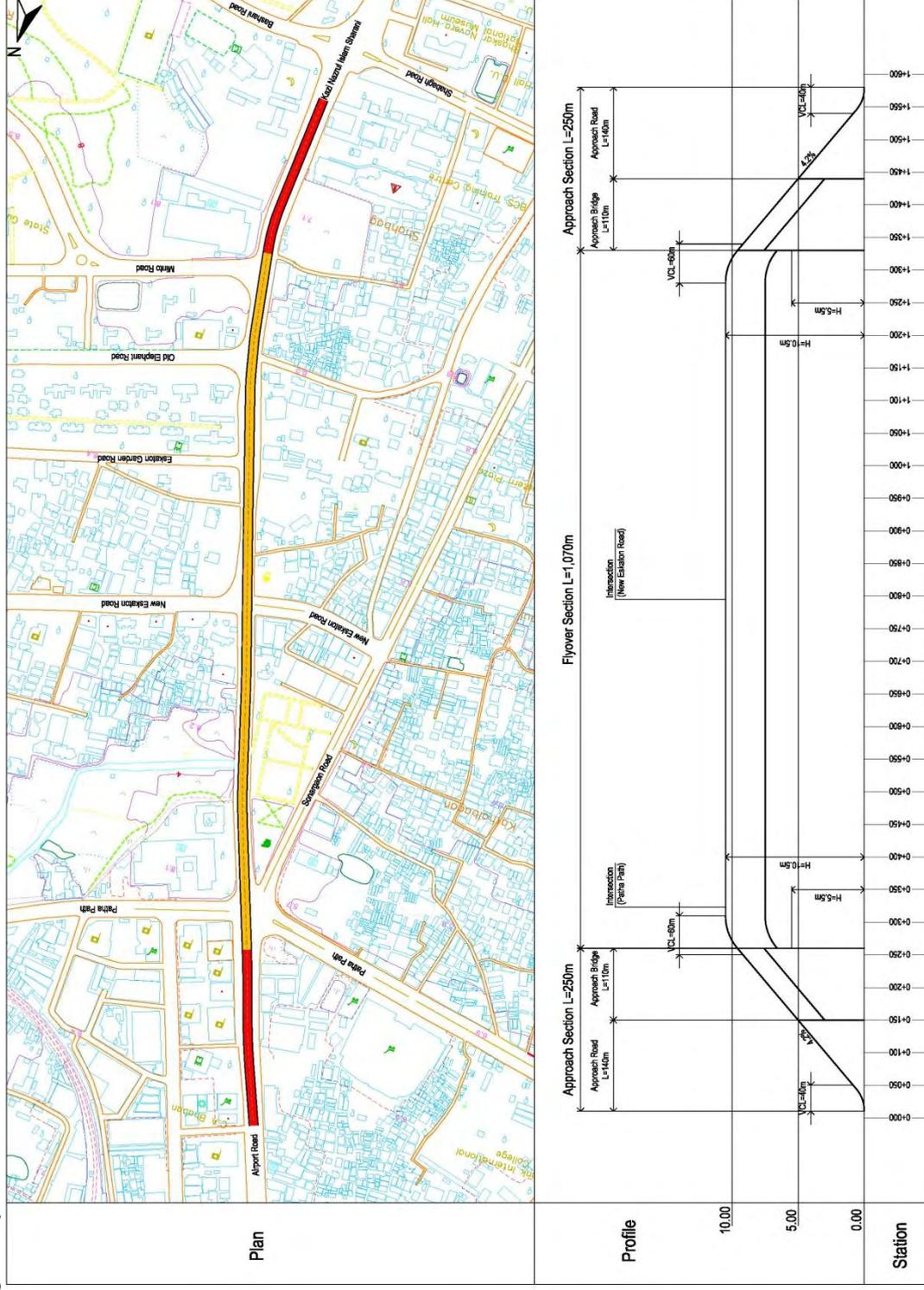


Figure 10.3-6 Layout Plan and Profile of Sonargaon Flyover

Airport Road



Kazi Nazurul
Islam Avenue
& Sonargaon
Road



Pantha Path
East



Pantha Path
West



Figure 10.3-7 Photos on Each Approach Roads at Sonargaon Intersections

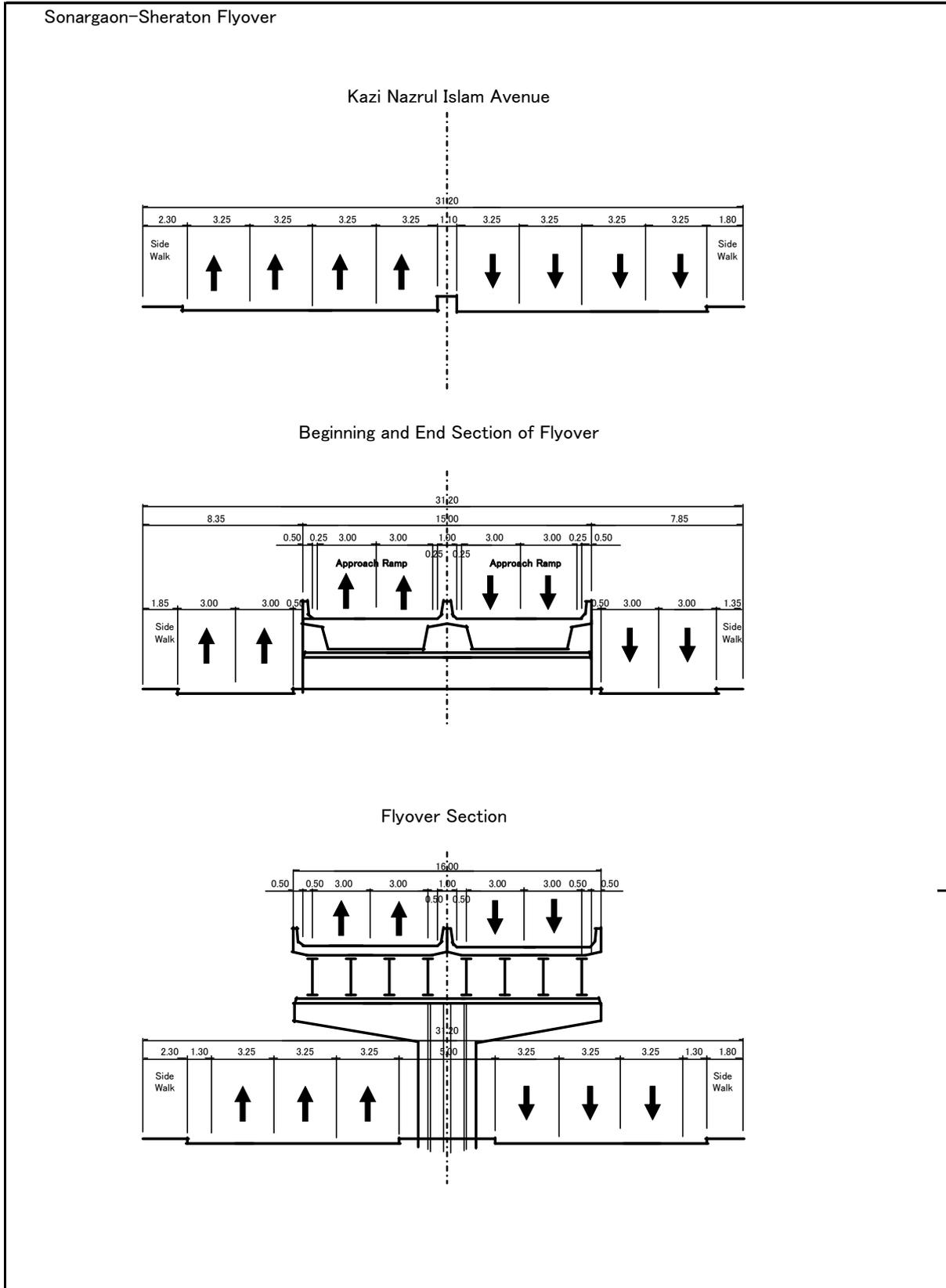


Figure 10.3-8 Typical Cross Section of Sonargaon Flyover Plan

c) Pragati Sharani on Airport Road(Kuril) Flyover Plan

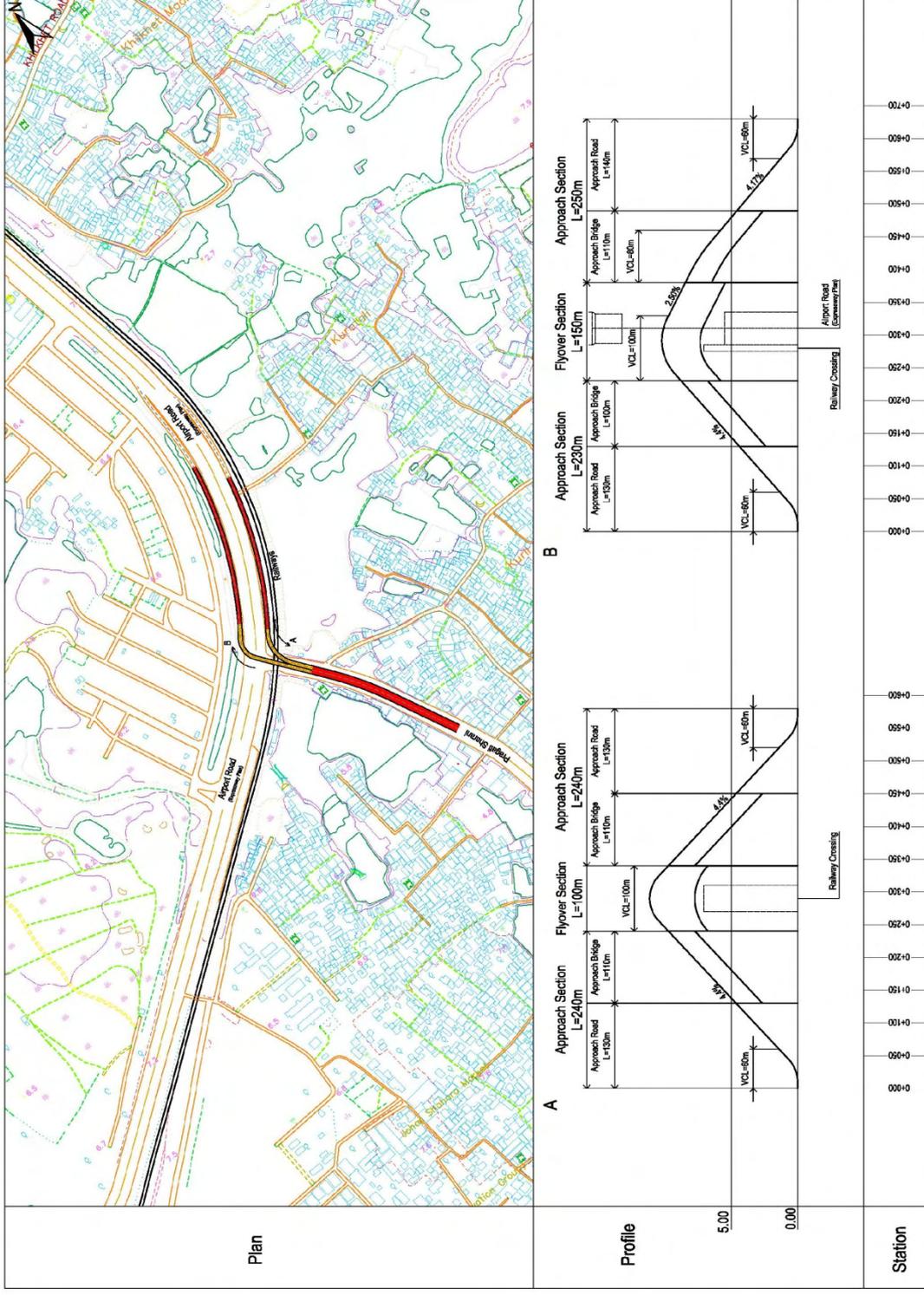


Figure 10.3-9 Layout Plan and Profile of Kuril Flyover Plan

New Airport Road South-1



New Airport Road South-2



New Airport Road North-1



New Airport Road North-2



Figure 10.3-10 Photos on Each Approach Roads at Kuril Intersection

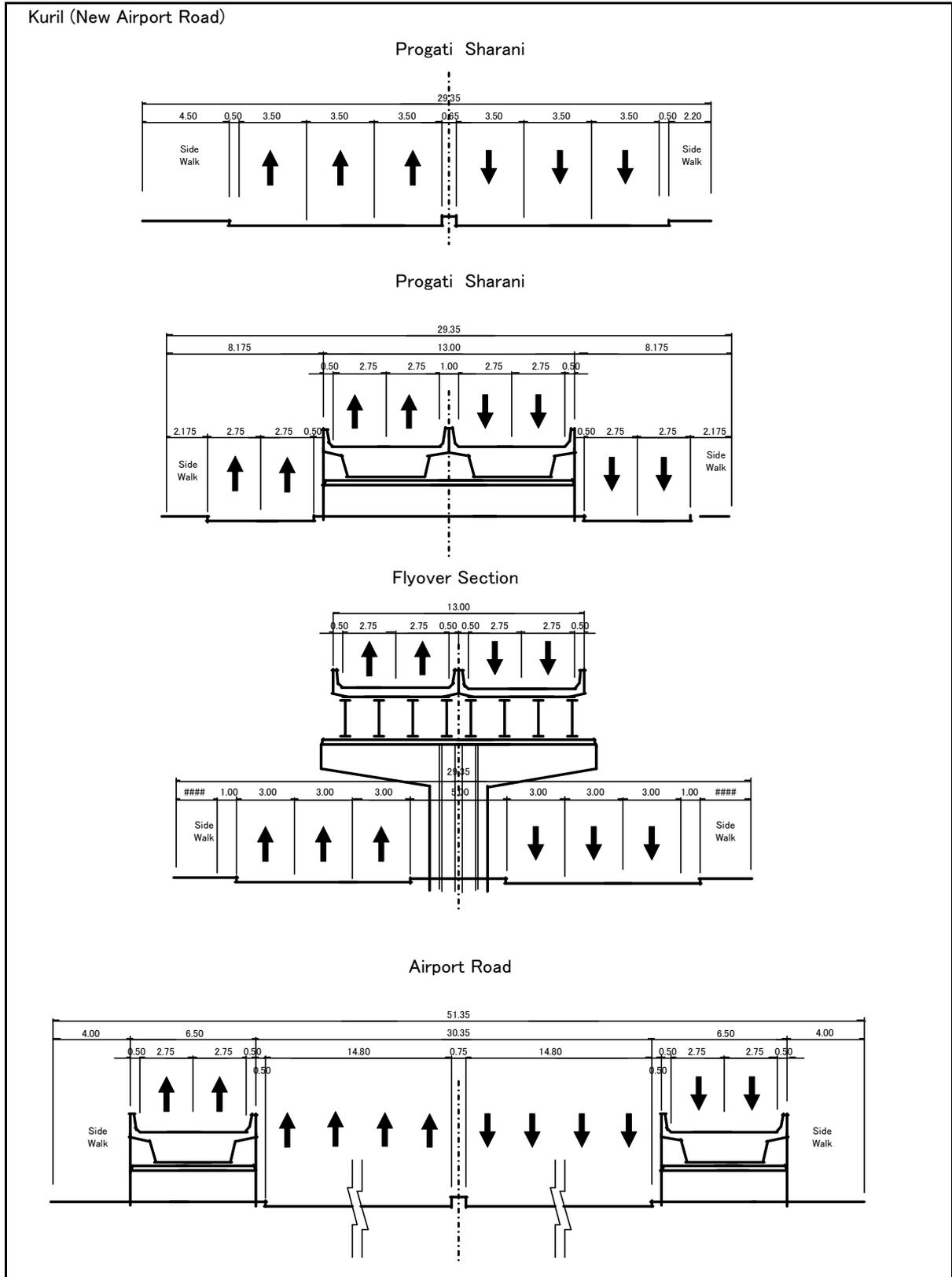


Figure 10.3-11 Typical Cross Section of Kuril Flyover Plan

d) Gulshan-1 Flyover Plan

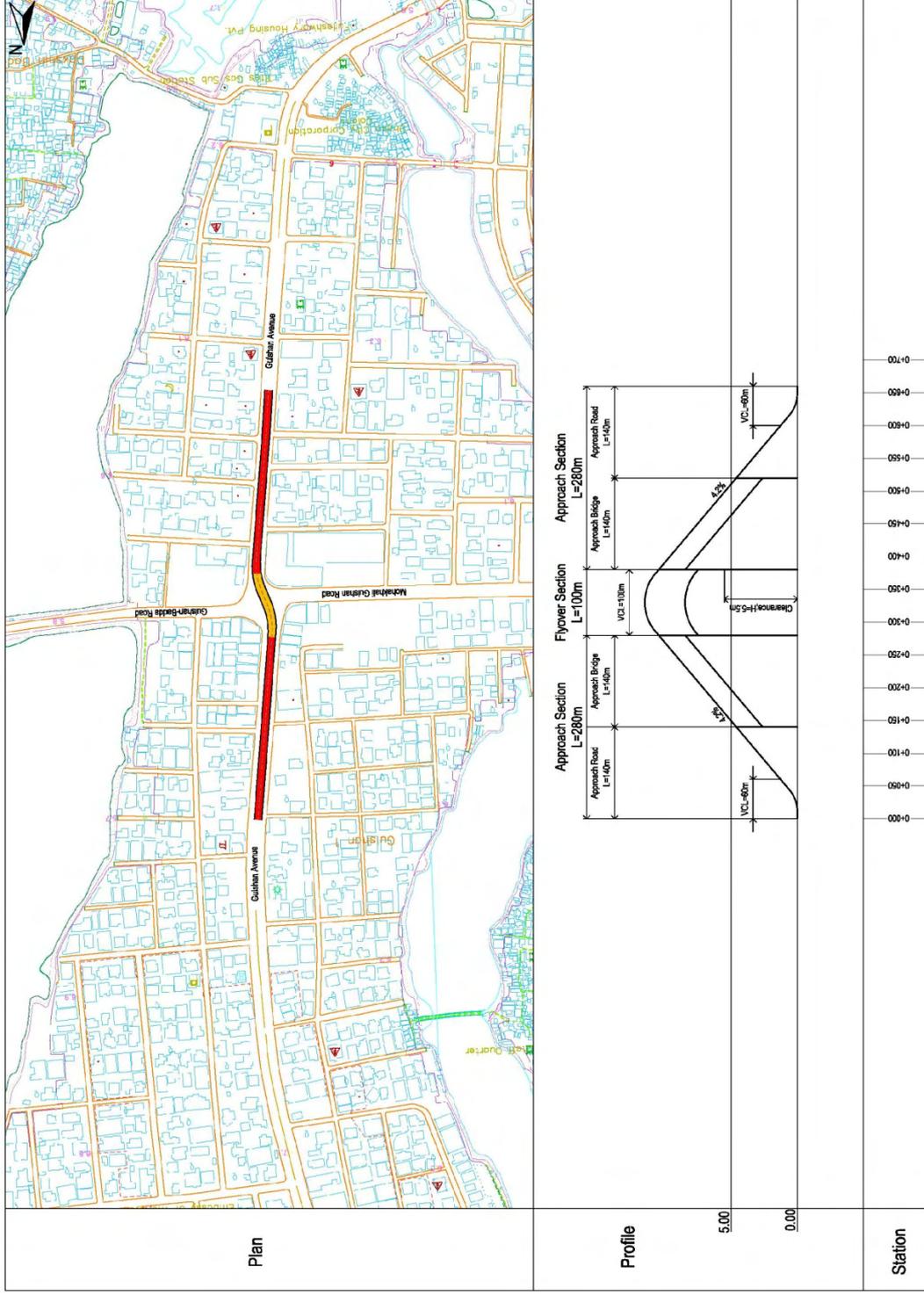


Figure 10.3-12 Layout Plan and Profile of Gulshan-1 Flyover Plan

Gulshan Avenue South



Gulshan Avenue North



Mohakhari Gulshan Road West



Mohakhari Gulshan Road East



Figure 10.3-13 Photos on Each Approach Roads at Gulshan-1 Intersection

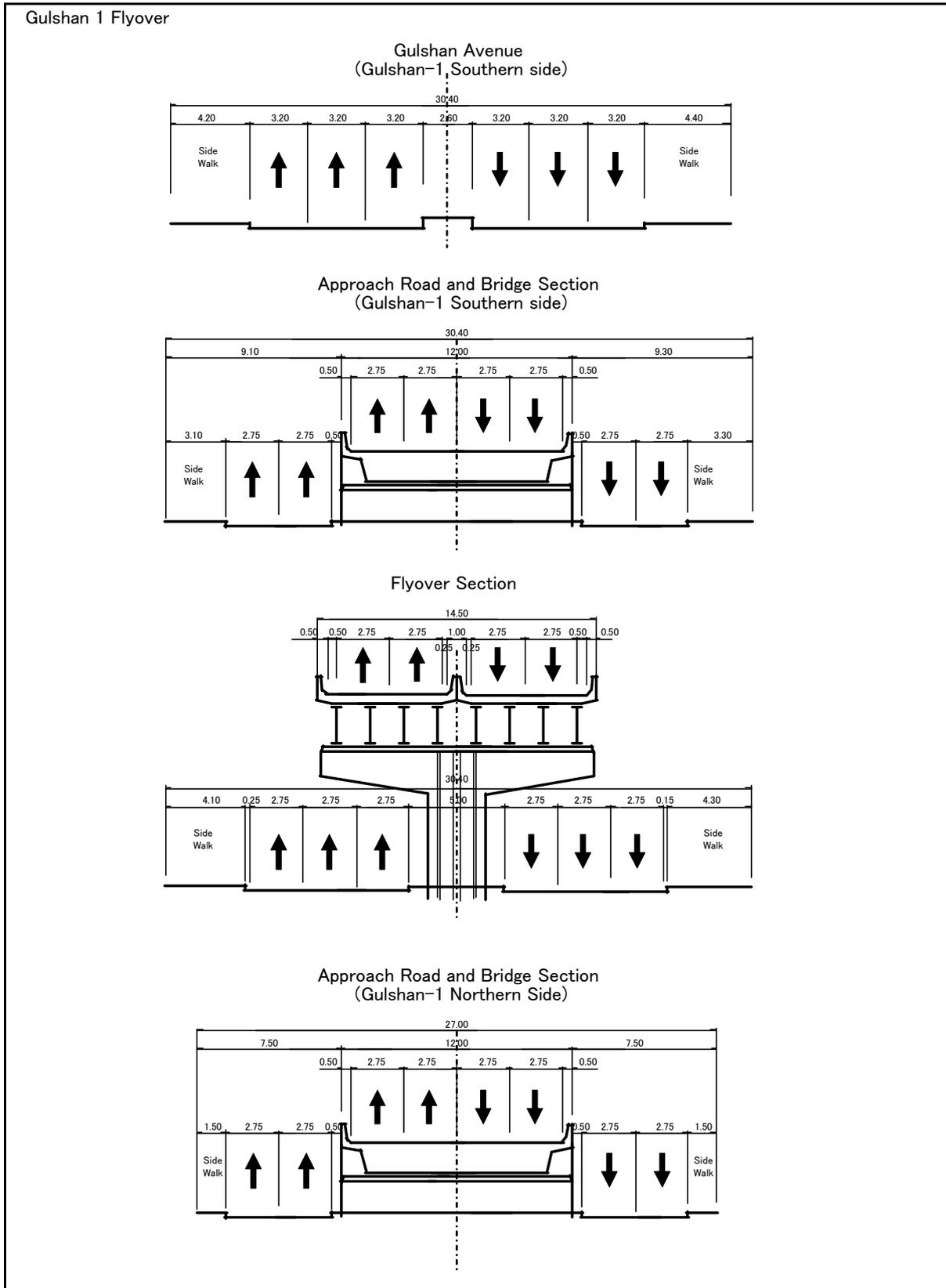


Figure 10.3-14 Typical Cross Section of Gulshan-1 Flyover Plan

e) Gulshan-2 Flyover Plan

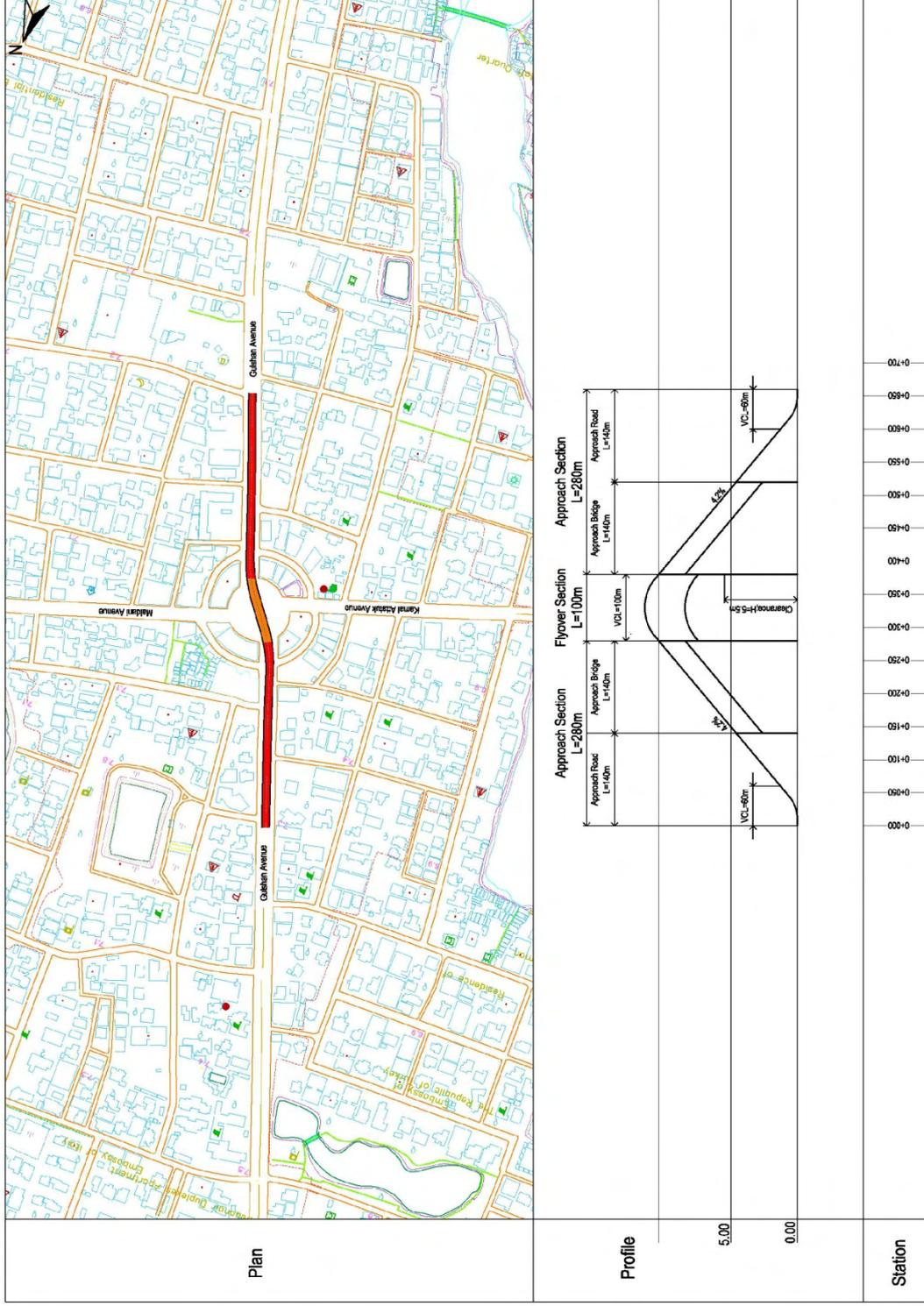


Figure 10.3-15 Layout Plan and Profile of Gulshan-2 Flyover Plan

<p>Gulshan Avenue South</p>		<p>Gulshan Avenue North</p>	
<p>Kamal Ataturk Avenue</p>		<p>Madani Avenue</p>	

Figure 10.3-16 Photos on Each Approach Roads at Gulshan-2 Intersection

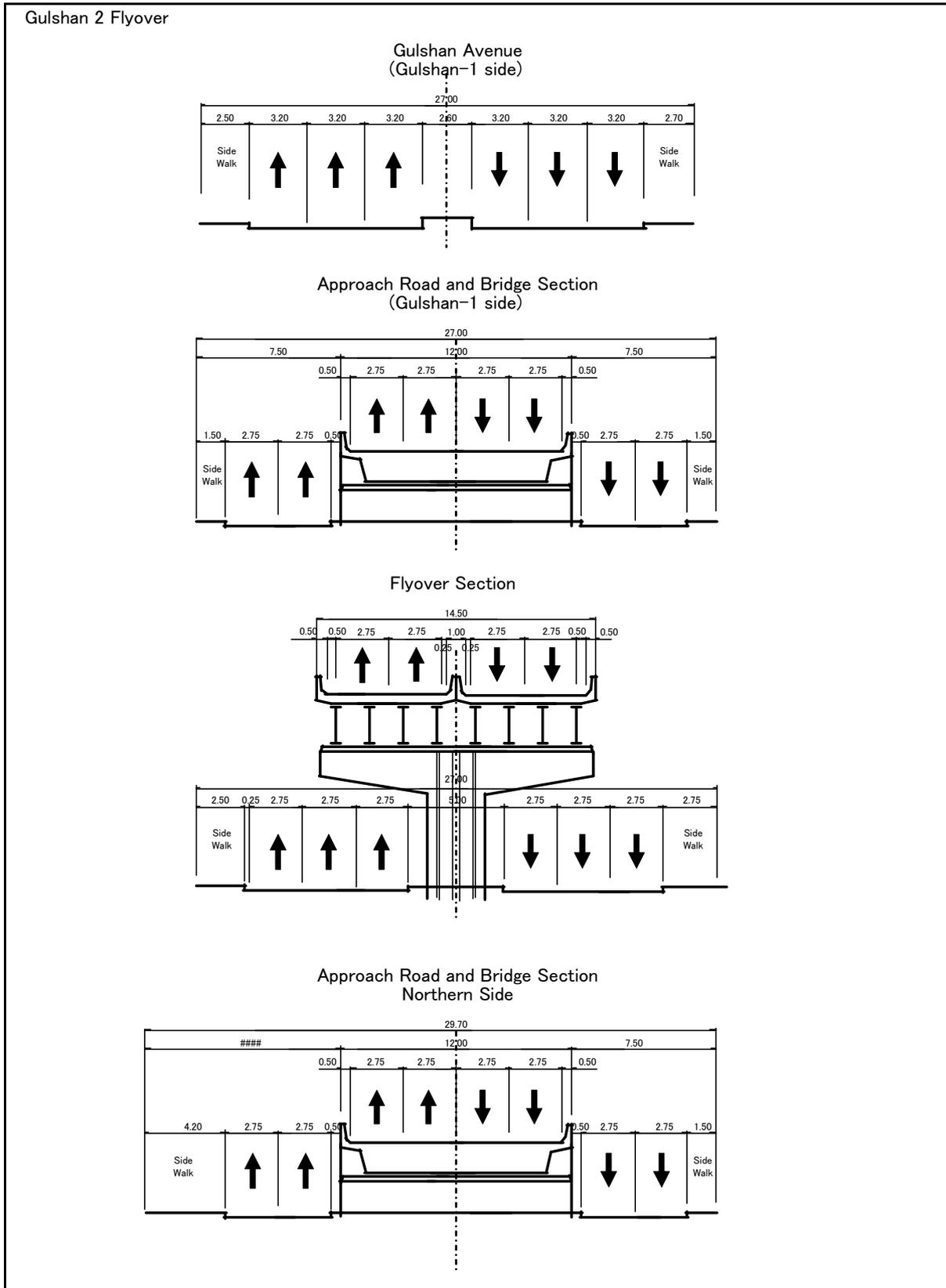


Figure 10.3-17 Typical Cross Section of Gulshan-2 Flyover Plan