

# Long Term Development Strategy for Traffic and Transportation in Chittagong



**Chittagong Development Authority**  
The Government of the People's Republic of Bangladesh

**CHITTAGONG METROPOLITAN  
MASTER PLAN**

**LONG TERM  
DEVELOPMENT STRATEGY  
FOR TRAFFIC AND TRANSPORTATION  
IN CHITTAGONG**

March 1995

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The Government of the People's Republic of Bangladesh

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Chittagong Development Authority

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা  
কর্তৃপক্ষ কর্তৃক প্রকাশিত

বুধবার, ডিসেম্বর ৯, ১৯৯৯

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

শাখা-৮

প্রজ্ঞাপন

তারিখ, ১৭ই ফাল্গুন, ১৪০৫/১লা মার্চ ১৯৯৯ ইং

এস. আর. ও নং ৩৮-আইন/৯৯-যেহেতু Chittagong Development Authority Ordinance, 1959 (E.P. Ord. No. L1 of 1959) অতঃপর উক্ত Ordinance বলিয়া উল্লিখিত, এর section 22-এর sub-section (3)-তে প্রদত্ত ক্ষমতাবলে সরকার চট্টগ্রাম উন্নয়ন কর্তৃপক্ষ, অতঃপর চট্টক বলিয়া উল্লিখিত, এর এখতিয়ারাধীন এলাকার বিদ্যমান Master Plan বাতিলক্রমে একটি নূতন Master Plan অত্র মন্ত্রণালয়ের প্রজ্ঞাপন নং-এস. আর. ও ২৮২-আইন/৯৮, তারিখ ৮-১২-৯৮ ইং, এর মাধ্যমে প্রকাশ করিয়া উহার বা উহার কোন অংশবিশেষের উপর কোন ক্ষতিগ্রস্ত বা অন্য কোন ব্যক্তির আপত্তি বা সুপারিশ উক্ত section-এর sub-section (4) এ নির্ধারিত সময়সীমার মধ্যে দাখিল করার জন্য আহ্বান করিয়াছে।

এবং যেহেতু উক্ত সময়সীমার মধ্যে প্রাপ্ত আপত্তি বা সুপারিশ বিবেচনা করিয়া সরকার উক্ত section-এর sub-section এ নির্ধারিত সময়সীমার মধ্যে কতিপয় সংশোধনীসহ নূতন Master Plan টি অনুমোদন করিয়াছে;

অতএব, যেহেতু উক্ত Ordinance-এর section 23-এর sub-section (1) এর বিধান মোতাবেক সরকার অত্র প্রজ্ঞাপনের দ্বারা নূতন Master Plan-এর অনুমোদনের বিষয়টি অনুমোদিত Master Plan সহ সংশ্লিষ্ট সকলের অবগতির জন্য প্রকাশ করিল।

বিশেষ দৃষ্টব্য : প্রস্তাবিত Master Plan (মাস্টার প্ল্যান)-এর একাধিক কপি ক্যানিং উইং, চট্টগ্রাম উন্নয়ন কর্তৃপক্ষ, চট্টক ভবন-এর ৪র্থ তলায় জনসাধারণের পরিদর্শনের জন্য সংরক্ষিত আছে।

রাষ্ট্রপতির আদেশক্রমে-

দেবনন্দ খীসা

উপ-সচিব (মনিটরিং সেল)।

মোঃ আবদুল করিম সরকার (উপ-সচিব), উপ-নিয়ন্ত্রক, বাংলাদেশ সরকারী মুদ্রণালয়  
ঢাকা কর্তৃক মুদ্রিত।

মোঃ আমিন জুবেরী আলম, উপ-নিয়ন্ত্রক, বাংলাদেশ ফরমস্ ও প্রকাশনী অফিস,  
তেজগাঁও, ঢাকা কর্তৃক প্রকাশিত।

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা  
কর্তৃপক্ষ কর্তৃক প্রকাশিত

মঙ্গলবার, এপ্রিল ২০, ১৯৯৯

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

পুঁজুয়ন ও গণপূর্ত মহালায়

শাখা-৮

সংশোধনী

তারিখ, ২১ মে মার্চ ১৯৯৯

সং-শা-৮/সিইসক-৭/৯৭/২৩-গত ওয়া মেক্রমারী ১৯৯৯ তারিখে বাংলাদেশ গেজেটের অতিরিক্ত সংখ্যায় প্রকাশিত এন. অর. ও স-৬৩/১৯৯৯-এর গেজেট বিজ্ঞপ্তির ১ম পৃষ্ঠায় প্রকাশনার তারিখ ভুলবশতঃ "বুধবার, মার্চ ৩, ১৯৯৯" এর স্থলে "বুধবার, মেক্রমারী ৩, ১৯৯৯" রাখা হইয়াছে।

একথা, উক্ত গেজেট বিজ্ঞপ্তির ১ম পৃষ্ঠায় "বুধবার মেক্রমারী ৩, ১৯৯৯"-এর স্থলে "বুধবার, মার্চ ৩, ১৯৯৯" পরিষ্কৃত হইবে।

সেক্সর ইলা  
উপ-সচিব (মনিটরিং সেল)।

সোঃ আবদুল করিম মাকসুদ (উপ-সচিব), উপ-নিয়ন্ত্রক, বাংলাদেশ সরকারী মুদ্রণালয়  
ঢাকা পূর্বাঞ্চল বিভাগ।  
সোঃ আবদুল হুসেইন আমস, উপ-নিয়ন্ত্রক, বাংলাদেশ ককমস ও প্রকাশনী অফিস  
ককমস, ঢাকা কর্তৃক প্রকাশিত

(১৮৮৩)

বাংলাদেশ



গেজেট

অতিরিক্ত সংখ্যা  
কর্তৃপক্ষ কর্তৃক প্রকাশিত

বুধবার, ডিসেম্বর ৯, ১৯৯৮

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়  
শাখা-৮  
প্রজ্ঞাপন

তারিখ, ২৪শে অগ্রহায়ণ ১৪০৫ বাৎ/৮ই ডিসেম্বর ১৯৯৮ ইং

এস. আর. ও নং-২৮২-আইন/৯৮-যেহেতু চট্টগ্রাম উন্নয়ন কর্তৃপক্ষ, অতঃপর চটক বলিয়া উল্লিখিত, এর এখতিয়ারাধীন এলাকার জন্য Master Plan (মাস্টার প্ল্যান) প্রস্তুত করা প্রয়োজন ও সমীচীন এবং যেহেতু Chittagong Development Authority Ordinance, 1959 (E.P. Ord. No. L1 of 1969)-এর section 22-এর sub-section (2)-এর শর্তাবলী পূরণ করিয়া 'চটক' উক্ত এলাকার Master Plan (মাস্টার প্ল্যান) প্রস্তুত করিয়া সরকারের নিকট ১৮ই অগ্রহায়ণ ১৪০৫, মোতাবেক ২রা ডিসেম্বর, ১৯৯৮ ইং তারিখে দাখিল করিয়াছে।

অতএব, যেহেতু সরকার উক্ত section এর sub-section (3)-তে প্রদত্ত ক্ষমতাবলে একটি নূতন প্রস্তাবিত Master Plan (মাস্টার প্ল্যান) এতদ্বারা প্রকাশ করিল, যাহা বিদ্যমান Master Plan বাতিলক্রমে কার্যকর হইবে।

প্রস্তাবিত Master Plan (মাস্টার প্ল্যান) বা উহার কোন অংশবিশেষ-এর উপর কোন ক্ষতিগ্রস্ত অথবা অন্য কোন ব্যক্তির আপত্তি থাকিলে তাহাকে অত্র প্রজ্ঞাপন জারীর ৩০ (ত্রিশ) দিনের মধ্যে প্রধান প্রকৌশলী, চট্টগ্রাম উন্নয়ন কর্তৃপক্ষ, চটক ভবন, কোর্ট রোড, চট্টগ্রাম-৪০০০ বরাবরে তাহার আপত্তি বা সুপারিশ দাখিল করার জন্য অনুরোধ করা যাইতেছে।

বিশেষ দ্রষ্টব্য : প্রস্তাবিত Master Plan (মাস্টার প্ল্যান)-এর একাধিক কপি ক্যানিং উইং, চট্টগ্রাম উন্নয়ন কর্তৃপক্ষ, চটক ভবন-এর ৪র্থ তলায় জনসাধারণের পরিদর্শনের জন্য সংরক্ষিত আছে।

রাষ্ট্রপতির আদেশক্রমে-  
দেবদত্ত খাঁসা  
উপ-সচিব (মনিটরিং সেল)।

মোঃ আবদুল করিম সরকার (উপ-সচিব), উপ-নিয়ন্ত্রক, বাংলাদেশ সরকারী মুদ্রণালয়  
ঢাকা কর্তৃক মুদ্রিত।

মোঃ আমিন জুবেরী আলম, উপ-নিয়ন্ত্রক, বাংলাদেশ ফরমস্ ও প্রকাশনী অফিস,  
তেজগাঁও, ঢাকা কর্তৃক প্রকাশিত

(৯৭৯৬)

**Component 2C**  
**Long-Term Transportation Development Strategy for Chittagong**

**CONTENTS**

	<b>Page No.</b>
<b>EXECUTIVE SUMMARY</b>	<b>ES-1</b>
1. Introduction	ES-1
2. Planning Studies	ES-1
3. Traffic and Transport Studies	ES-1
4. Scope and Principle Recommendations of the LTDS	ES-1
5. Programme Costs and Timing	ES-5
6. Study Area	ES-5
7. Mapping and GIS	ES-5
8. Consultation	ES-6
9. Report Layout	ES-6
<b>CHAPTER 1 : INTRODUCTION</b>	<b>1-9</b>
1.1 Study Components	1-1
1.2 Objectives	1-1
1.3 Synopsis of Previous and Ongoing Studies	1-2
1.3.1 General	1-2
1.3.2 Planning and Infrastructure Studies	1-2
1.3.3 Traffic and Transport Studies	1-3
1.4 Scope of the LTDS	1-4
1.4.1 Main Components	1-4
1.4.2 Transport Policy Objectives	1-5
1.5 Study Area	1-6
1.6 Mapping and GIS	1-6
1.7 Consultation	1-8
1.8 Report Layout	1-8

**CHAPTER 2 : DEVELOPMENT OF THE HIGHWAY NETWORK** **2-13**

2.1	Introduction	2-1
2.2	Principles of Network Development	2-2
2.2.1	Strategic Network	2-2
2.2.2	Catering for Chittagong's Growth – Development Areas	2-3
2.2.3	Catering for Chittagong's Growth – Growth Centres	2-4
2.3	Traffic on Selected Routes	2-4
2.4	Design	2-5
2.4.1	Standard Cross-Sections	2-5
2.4.2	Junction Design	2-5
2.4.3	Pavement Design	2-6
2.4.4	Environmental Impacts	2-6
2.5	Costs	2-6
2.5.1	Improvement Measures	2-7
2.5.2	Estimated Costs	2-7
2.5.3	Structures	2-7
2.5.4	Service Divisions	2-8
2.5.5	Inner Ring Road	2-9
2.5.6	Costs for Economic Analysis	2-9
2.6	Hierarchy of Roads	2-10
2.6.1	Introduction	2-10
2.6.2	Phased Implementation	2-10
2.6.3	Controlling Encroachment	2-11
2.6.4	Routes for which Road Reserves and Alignments should be Defined	2-12
2.6.5	Adoption of Private Streets	2-13
2.7	Traffic Management	2-13

**CHAPTER 3 : DEVELOPMENT OF ROAD TRANSPORT SERVICES** **3-17**

3.1	Introduction	3-1
3.2	Passenger Road Transport Services	3-2
3.2.1	General	3-2
3.2.1	Technology and Energy Considerations	3-3
3.2.3	Routes : Large Buses	3-5



3.2.4	Routes : Minibuses	3-6
3.2.5	Routes : Intermediate Transport Services	3-7
3.2.6	Optimum Size of Fleets, Ownership and Organisation	3-8
3.2.7	The Role of Government	3-9
3.2.8	Bus Terminal Facilities	3-11
3.3	Freight Transport Services	3-13
3.3.1	Size of Vehicles	3-13
3.3.2	Role for Non-Mechanised Freight Traffic	3-13
3.3.3	Tariffs	3-13
3.3.4	Routes	3-14
3.3.5	Structure of the Industry	3-14
3.3.6	Truck Terminals	3-15
3.4	Off Street Parking Facilities	3-15
3.4.1	General	3-15
3.4.2	Existing Premises	3-16
3.4.3	City-Centre Parking	3-16
3.4.4	Industrial Premises	3-16
3.4.5	New Developments	3-16

## **CHAPTER 4 : AVIATION AND MARITIME SERVICES** **4-19**

4.1	Introduction	4-1
4.2	Chittagong Airport	4-1
4.2.1	Existing Facilities and Usage	4-2
4.2.2	Development Plans	4-2
4.2.3	Traffic Forecasts	4-2
4.2.4	Access Requirements	4-3
4.2.5	Land Availability	4-3
4.3	Chittagong Port	4-4
4.3.1	Role of Chittagong Port Authority	4-4
4.3.2	Forecast Port Traffic : Imports and Exports	4-4
4.3.3	Forecasts of Container Traffic	4-5
4.3.4	Access Improvements	4-6
4.3.5	Land Availability for Expansion of Port Facilities	4-6

4.4	Inland Water Transport : Cross & Up-River Ferry Services	4-7
4.4.1	Terminal Improvements	4-7
4.5	Water Transport Coastal and Intercity Services	4-8
4.5.1	Present Operations	4-8
4.5.2	Previous Study Recommendations	4-8
4.5.3	Terminal Improvements	4-9

## **CHAPTER 5 : THE ROLE OF RAILWAYS IN CHITTAGONG** **5-11**

5.1	Introduction	5-1
5.2	Background	5-1
5.3	Proposals for Change	5-2
5.4	Institutional Reform of Bangladesh Railways	5-2
5.5	Suburban and Intercity Rail Services	5-3
5.5.1	Network	5-3
5.5.2	Operations	5-4
5.5.3	Demand for Passenger Services	5-5
5.5.4	Market Share	5-6
5.5.5	Local Service Rationalisation	5-6
5.5.6	Rail Transport Market	5-7
5.6	Central Station Development	5-8
5.6.1	Existing Site	5-8
5.6.2	Redevelopment of the Existing Site	5-8
5.6.2	Recommendations	5-9
5.7	Railway Land	5-9
5.7.1	Land Ownership	5-9
5.7.2	Land Management	5-10
5.7.3	Recommendations for Land Disbursement	5-10
5.7.4	Protection of Rail Corridors	5-10
5.7.5	Removing Obstructions near Level Crossings	5-10
5.8	Rail Overbridge Construction Programme	5-10
5.9	Improvements to Level Crossings near Port	5-11

**CHAPTER 6 : PROJECT APPRAISAL AND PROGRAMME FINANCING 6-13**

6.1	Introduction	6-1
6.2	New Links : Appraisals	6-2
6.2.1	New Road along the Proposed Karnaphuli River Flood Protection Wall and an Upgraded Strand Road	6-3
6.3	Widening and Other Improvements to Existing Links : Appraisals	6-4
6.3.1	Improvements to Zakir Hossain Road	6-5
6.3.2	Other Improvement Works	6-6
6.4	Road Overbridges at Rail Crossing Sites	6-7
6.5	Bridge Widening Project	6-8
6.6	Financing of Proposals	6-9
6.6.1	Introduction	6-9
6.7	Investment Programme	6-10
6.7.1	Source	6-10
6.7.2	Recommended Construction Programme	6-10
6.7.3	Project Categorisation	6-12
6.8	Local Budgetary Constraints	6-12
6.9	Financing Recommendations	6-13
6.10	Sources of Capital	6-14

**CHAPTER 7 : PROGRAMME IMPLEMENTATION SUMMARY 7-17**

7.1	Introduction	7-1
7.2	Infrastructure Development	7-1
7.3	Programme Costs	7-1
7.4	Integrated Planning and Transport Considerations	7-3
7.5	Implementation Assumptions	7-4
7.6	Phasing	7-4
7.6.1	Lead Times	7-4
7.6.2	Ongoing Activities	7-5
7.7	Further Studies	7-5
7.8	Technical Assistance	7-6
7.9	Training	7-6

<b>CHAPTER 8 : INSTITUTIONAL ASPECTS</b>	<b>8-1</b>
8.1 Introduction	8-1
8.2 The Need for Institutional Strengthening	8-1
8.3 Alternative Measures	8-2
8.4 Present Division of Responsibilities	8-2
8.4.1 Chittagong Development Authority	8-2
8.4.2 Chittagong City Corporation	8-3
8.5 Main Division of Responsibilities	8-4
8.5.1 Highway Programme Implementation	8-4
8.5.2 Public Transport Programme Implementation	8-4
8.5.3 Railway Overbridge Programme Implementation	8-4
8.5.4 Public Transport Terminal Programme Implementation	8-4
8.6 Proposed Co-ordination & Implementation Arrangements	8-5
8.7 Transport Co-ordination Committee	8-6
8.8 Strategic Transport Planning Unit	8-6
8.9 Project Implementation Units	8-7
8.10 Interagency Co-ordination and Co-operation	8-8

## List of Tables

Table 2.1	Classified Traffic Counts, Two-way, 0600h-1800h May 1992–Dec. 1993
Table 2.2	Estimated Standard Axle Values
Table 2.3	Cross Sectional Widths
Table 2.4	Route Cross Sectional Types
Table 2.5	Proposed Improvement Measures for Long Term Transport Development Strategy
Table 2.6	Estimated Capital Expenditure for Long Term Transport Development Strategy
Table 2.7	Estimated Cost of Road over Rail Bridges
Table 2.8	Estimated Cost of Other Road Bridges
Table 2.9	Forecast Volume Capacity Ratios
Table 3.1	Forecast Growth in Vehicular Traffic in Chittagong
Table 3.2	Advantages and Disadvantages of Alternative Public Transport Policies
Table 3.3	Bus Operations around Chittagong
Table 4.1	Air Traffic Forecasts for Chittagong.
Table 4.2	Port Traffic Projects – Imports and Exports 1997 to 2011
Table 4.3	Port Traffic Projects – Dry Port Imports and Exports 1997 to 2011
Table 6.1	Results of Surveys on Karnaphuli Bridge Road
Table 6.2	Benefits from Proposed New Road along Proposed Sea Wall, Upgrading Strand Road and;
Table 6.3	Results of Surveys from Dhaka Trunk Road
Table 6.4 (a)	Benefits from Proposed Improvements to Zakir Hussain Road
Table 6.4 (b)	Benefits from Proposed Improvements to Zakir Hussain Road
Table 6.5 (a)	Volume to Capacity Ratio on Various Links
Table 6.5 (b)	Speed-Flow Analyses
Table 6.6	Expenditure in Economic Terms of Travel on Each Section
Table 6.7	Construction Costs and Dates when the EIRR is likely to Exceed 12%
Table 6.8	Annual Economic Costs of Delays from Gate Closures on Road-Rail Crossings
Table 6.9	Construction Costs and Estimated EIRRs for Road-Rail Overbridges
Table 6.10	
Table 6.11	Analyses of Transport Project Development Expenditure by CCC and CDA (Million Tk)

Table 6.12	Investment Programme (Million Tk)
Table 6.13	Recent Development Expenditure on Transport at the National Level (Million Tk)
Table 6.14	Annual Financing Costs of Investment Programme (Million Tk)
Table 6.15	Forecast Revenues from Property Holding Tax Compared to Financing Requirements (Million Tk)
Table 8.1	Organisations Responsible for Provision of Services and Facilities in Chittagong.

### List of Figures

Figure 1.1	Study Area
Figure 2.1	Major Road Corridors Considered for Improvement
Figure 2.2	External Primary Road Network in Relation to Growth Centres
Figure 2.3	Standard Cross-Sections
Figure 2.4	Functional Hierarchy Medium Term
Figure 3.1	Typical Minibus and Conventional Bus in Kuala Lumpur
Figure 3.2	Bangkok "Minibus" on Small Truck Chassis
Figure 3.3	Possible Bus Routes After Construction of New Missing Link in Inner Ring Road and Improvement to Other Primary Links
Figure 4.1	Existing Landuse Map of Strand Road Area
Figure 4.2	1. CPA Proposed Embankment Scheme from Jetty-1 to Sadarghat 2. Soundings and Bank Lines Refers to CPA-RS Chart, 1983
Figure 5.1	Railway Network – Chittagong District
Figure 6.1	Calculations of Benefits from Widening the Madambibirhat Bridge on the Dhaka Trunk Road to Two Lanes
Figure 6.2	Example of Calculations for the date when EIRRs are likely to exceed 12%
Figure 7.1	Road Construction Proposals
Figure 7.2	Draft Project Implementation Plan
Figure 7.3	Strategic Highway Development
Figure 7.4	Roads Hierarchy Long Term Goal

## **ABBREVIATIONS**

ATC	Area Traffic Control
BBS	Bangladesh Bureau of Statistics
BIWTA	Bangladesh Inland Water Transport Authority
BIWTC	Bangladesh Inland Water Transport Corporation
BR	Bangladesh Railways
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BTPP	Bureau of Transport Policy and Planning
BTSS	Bangladesh Transport Sector Study
BWDB	Bangladesh Water Development Board
CCC	Chittagong City Corporation
CDA	Chittagong Development Authority
CPA	Chittagong Ports Authority
DESD	UN Department of Economic and Social Development
DITS	Greater Dhaka Metropolitan Area Integrated Transportation Study
DMDP	Dhaka Metropolitan Development Planning Study
DPC	Deputy Project Co-ordinator
EIRR	Economic Internal Rate of Return
ESA	Equivalent Standard Axle
FFYP	Fourth Five Year Plan
FYRR	First Year Rate of Return
GIS	Geographic Information System
GOB	Government of Bangladesh
GPS	Global Positioning System
HIS	Household Interview Survey
IAP	Immediate Action Plan
LTDS	Long Term Transport Development Strategy
MVO	Motor Vehicle Ordinance
NPV	Net Present Value
O-D	Origin Destination Survey

PC	Planning Commission
PIU	Project Implementation Unit
PCU	Passenger Car Unit
RAJUK	Rajdhani Unnayan Kartripakkha (Capital Development Authority)
RHD	Roads and Highways Department
SMA	Statistical Metropolitan Area
SOB	Survey of Bangladesh
TEU	Twenty Feet Equivalent Units
TOR	Terms of Reference
TRL	Transport Research Laboratory
TM	Traffic Management
UNCHS	United Nations Centre for Human Settlements
UNDP	United Nations Development Program
USD	US Dollar
VOC	Vehicle Operating Cost
V/C	Vehicle / Capacity



## Compendium of Working Papers in Component 2C

<u>No.</u>	<u>Title</u>	<u>Date</u>
1.	Database of transport infrastructure	August 1992
2.	Database of transport operations	August 1992
3.	Database of transport movements	August 1992
4.	Summary of movements of goods and passengers within GCMA	November 1992
5.	Review of : Axle load data, vehicle maintenance standards, energy consumption by the transport sector in Chittagong, and road accidents	October 1992
6.	Current traffic problems	September 1992
7.	Traffic forecasts	December 1993
8.	Urban road and traffic manual	December 1993
9.	Traffic database manual	December 1993
10.	Traffic database Volume I Volume II	April 1994
11.	The role of railways in the long term development of Chittagong Volume I Volume II - Annexes	April 1994
12.	Evaluation of alternative spatial development strategies from a transport perspective	April 1994

## EXECUTIVE SUMMARY

### 1. Introduction

This report has been prepared as part of the Transportation Component (2C) of the UNCHS BGD-88-052 project "*Preparation of Structure Plan, Master Plan, and Detailed Area Plan of Chittagong.*" The detailed objectives are the preparation of a Long Term Transport Development Strategy principally for the Chittagong Metropolitan Area and the identification of a Transport Investment Programme.

### 2. Planning Studies

The LTDS report cites the main reports and working papers issued by the Study Planning Component 2A and Drainage Component 2B, including the "*Chittagong Stormwater Drainage and Flood Control Master Plan*" of March 1994. Forecasts of Component 2A Working Papers entitled "*Preliminary Strategic Plan*" and "*Alternative Spatial Development Strategies.*"

### 3. Traffic and Transport Studies

Recommendations for immediate action were proposed in the "*Immediate Action Plan Report.*" of December 1993. The LTDS report documents the progressive expansion of the transportation system beyond the IAP plan period (five years) to the year 2011. The work documented in the report is derived from data, trip patterns and statistics collected over the period 1992-94. An extensive databank has been assembled and is an important asset for future transport planning purposes in Chittagong.

Extensive discussions and exchange of working papers and reports were undertaken during the period 1992-94 with the DITS transport study team in Dhaka, which is funded by the UNDP.

### 4. Scope and Principle Recommendations of the LTDS

The LTDS report provides a Long-Term (Transport) Development Strategy for Chittagong composed of suggested policy initiatives and an accompanying Investment Programme.

The implementation of the Immediate Action Plan is considered to be the first phase of the implementations of the LTDS for Chittagong. The main components and recommendations of the LTDS are given in Tables ES1 and ES2.

**Table ES1**

**Principle Recommendations of the Immediate Action Plan (Phase 1)**

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**1. Traffic Management and Engineering**

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- Improvements of intersections on the strategic network, including a ranked programme of round-about construction and a reduced role and operation of traffic lights.
  - Removal of bus and tempo stops from junctions, restrictions on rickshaw waiting on Anderkilla Road and cancellation of the Laldighi/Ankdekillla one way system.
  - Better police enforcement and additional resources.
  - Adoption of design guidelines for road improvement and for parking and access arrangements in new developments.
  - Enforcement of development control on the Port Connecting Road and the Karnaphuli Bridge Approach Road.
  - Priority for footpath reinstatement, signing of national standards and corrections to serious local road surface irregularities – such as pole bases, raised manholes etc.
  - Trials for pedestrian crossing schemes and "no rickshaw" lanes.
  - Regular updating of the traffic database.
- 

**2. Improvements to Transport Services**

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- Encouragement of higher quality bus services (e.g., scheduled service all seater a/c minibuses) by allowing higher fares for such services. Provision of seed capital to assist start up of minibus services.
  - Measures to improve market penetration of bus services.
  - Designation of truck routes to and from the Port.
  - Measures to improve access to the central railway station.
- 

**3. Institutional Strengthening**

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- Establishment of a Chittagong Traffic Committee, supported by a Traffic Technical Committee, with technical support.
  - Enhancements to the Chittagong Metropolitan Transport Committee.
  - Formation of a Public Transport Group
  - Formation of an IAP implementation unit.
- 

**Note :** For further details of the recommendations included in this summary list, reference should be made to the Immediate Action Plan report.

**Table ES 2 (Sheet 1 of 2)**

**Principle Recommendations of the Long Term Development Strategy Phase 2**

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**1. Highway Improvements (Chapters 2 and 6)**

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A substantial highway and junction improvement programme composed of three main elements :

- radial highway widening and junction improvement measures, sufficient to improve access and permit environmental relief within corridors;
- orbital highway construction, to relieve and enable the expansion of the City centre and improvement of its pedestrian environment; and
- selected highway investment to provide access to development areas and growth centres from strategic network.

Specific proposals for new links before 2011 are as follows :

- a new road, along the proposed Karnaphuli flood defences, connecting Strand Road to the new crossing of the Karnaphuli at Shah Amanat Bridge;
- an improved link to the City centre from the above via Sadarghat Road; and
- a possible second new link from the above to the City centre via Feringhee Bazaar.

A wide ranging programme of works has been proposed for improving existing links. The most important projects are :

- widening and realignment works on Zakir Hossain Road – principally to shorten travel times for vehicles arriving along the Dhaka Trunk Road and heading to points in the north and east of the City;
- improvements to the Arakan Road;
- improvements to Baizid Bostami Road; and
- minor improvements to a number of inner city streets.

In addition roads are required to open up areas for development. This applies to the following areas :

- Rampur/Agrabad;
- Bakalia;
- Kulgaon; and
- the area between Foy's Lake and the Hathazari Road.

There is also a need to identify road reserves for a number of possible future links. These include a new road in the port area to improve access to the Airport, a new east-west link to the north of the urban area and a new north-south link extending from the Karnaphuli Bridge Approach Road to connect with the new east-west route referred to above.

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**2. Provision of Railway Overbridges (Chapters 5 and 6)**

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There are a number of sites where replacement of level crossings by overbridges is, or will be, economically justified. The two crossings on Zakir Hossain Road (central and west) and those at Kadamtali, Sholashahar, Punjabi Lane and Jhaotala Railway Road should be replaced by 1997 and those at Oxygen and Saltgola replaced by 2001.

**Principle Recommendations of the Long Term Development Strategy (Phase 2)**

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**3. Improvements of Road Transport Services (Chapter 3)**

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Proposals relating to bus and paratransit services, with particular emphasis on the provision of bus transport services for the poorer sections of the community, comprising four main elements :

- integration of services on individual public transport modes, e.g., a new circular bus route linking bus terminals, additional peak hour services in central zones and better co-ordinated time tables;
- the encouragement of minibus services by such measures as restrictions on rickshaws on some heavily trafficked roads, strike control of standards on the minibuses and ensuring adequate frequency of services;
- enhancement of service levels, where justified, by changes in fare structure and increased penetration of bus services; and
- provision of additional bus terminals and upgrading of existing ones.

For road freight, provision of a truck terminal in the Halishahar area, and improvement of truck parking in the port area.

Recommendations for other off-street parking provision.

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**4. Improvements to Other Modes (Chapters 4 and 5)**

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Supportive development of other modes (such as waterways and aviation) and of terminal facilities for the Port, Airport and Railway, including :

- identification of reserves of land for future Airport development;
  - improvements to access, and some gates, for the Port;
  - improved terminal facilities for cross and up-river ferry services;
  - improved terminal facilities for coastal and inter-city water transport, possibly via a long pier parallel to the river bank;
  - consideration by Bangladesh Railways (BR) of closure of Hathazari-Nazirhat line and reduction in the number of stops on the Dohazari route;
  - development of the existing central railway station by BR, working closely with CDA;
  - establishment of joint BR/CDA Working Party to influence BR land disbursement;
  - protection of former rail corridors for possible future transportation use; and
  - improvement of two level crossings in the Port area.
- 

**5. Institutional Strengthening (Chapter 8)**

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- Formation of a permanent Strategic Transport Planning Unit (STPU) within CDA, with a high level Transport Co-ordination Committee.
  - Formation of two temporary Project Implementation Units (PIUs) within CDA and CCC.
- 

Note : For further details of the recommendations included in this summary list, reference should be made to the chapter of the main report indicated.

Long term planning inevitably involves a degree of speculation regarding the way in which development will continue, and in Chittagong the machinery for development planning is not well established. For this reason periodic review and re-appraisal of the LTDS proposals should be made.

The following Figures from the main report are reproduced on the following pages illustrating the proposals :

Figure 7.1 Road Construction Proposals

Figure 7.3 Strategic Highway Development

Figure 3.3 Possible Bus Routes (after construction of new missing link in inner ring road and improvement to other primary links).

## 5. Programme Costs and Timing

The LTDS has been formulated according to the likely availability of public and private sector funds. In the **First Phase**, the funding need was estimated at some 1.0 million US dollars (Tk. 40 million) spread over a three to five - year implementation period. (Refer to Table 5.1 within the Consultants "Immediate Action Plan") (IAP report.)

In the **Second Phase**, the LTDS costs some 110 million US dollars (Tk. 4,400 million) spread over a twenty - year implementation period. Of this the majority of public sector financing are costs associated with the highway and junction improvement and railway overbridge programmes.

Table 6.12 (Investment Programme) and Figure 7.2 (Draft Project Implementation Plan) are reproduced herewith from the main report to summarise the proposed programme.

## 6. Study Area

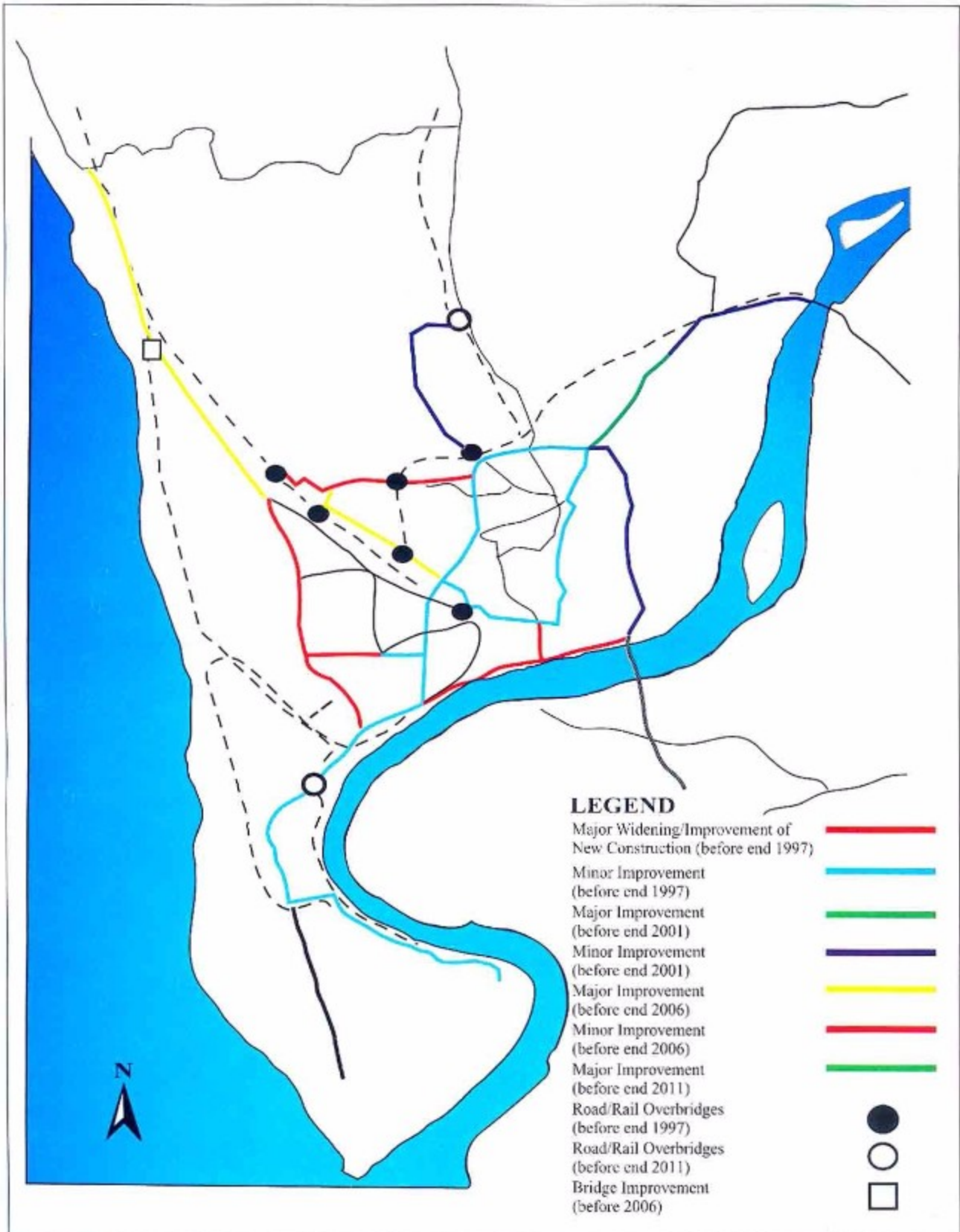
The study area covered by the LTDS is the same as that of the Structure Plan. However, the main effort of the LTDS has been concentrated on a core area which is currently urban, or is expected to become urban within the lifetime of the Structure Plan, i.e., between now and the year 2015.

## 7. Mapping and GIS

The mapping that was used as the basis of the Long Term Transport Development Strategy was as follows :

- (a) 1:50,000 scale maps of the Chittagong area (Survey of Bangladesh); and
- (b) 1989 GEOSPOT satellite photographs of the Chittagong area.

Extensive use was made of the Project's GIS system that was implemented by the Study Component 2D, based on ArcInfo software, to capture the physical transport features of the study area such as roads and railways, and major terminal sites.



**Figure 7.1 ROAD CONSTRUCTION PROPOSALS**

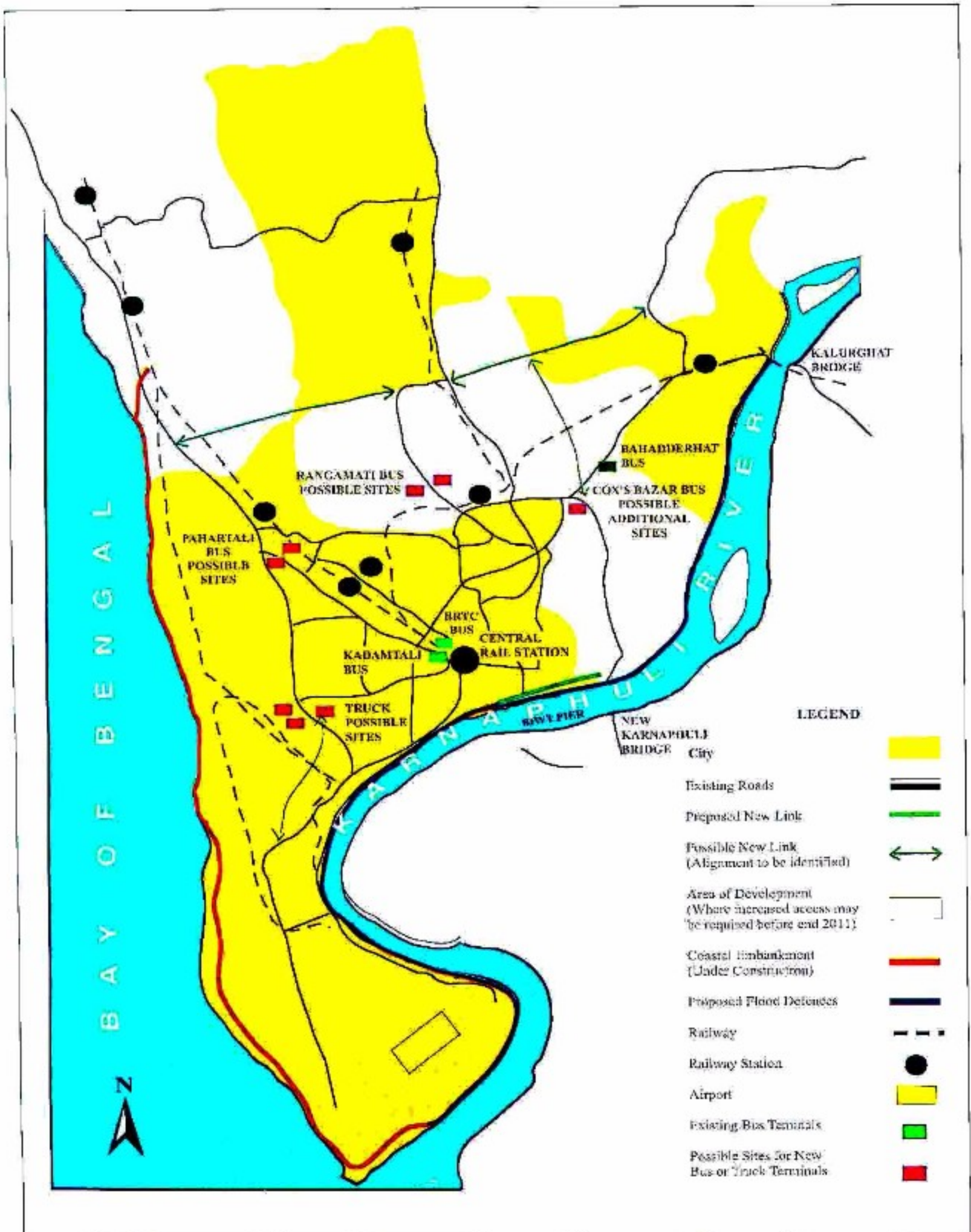
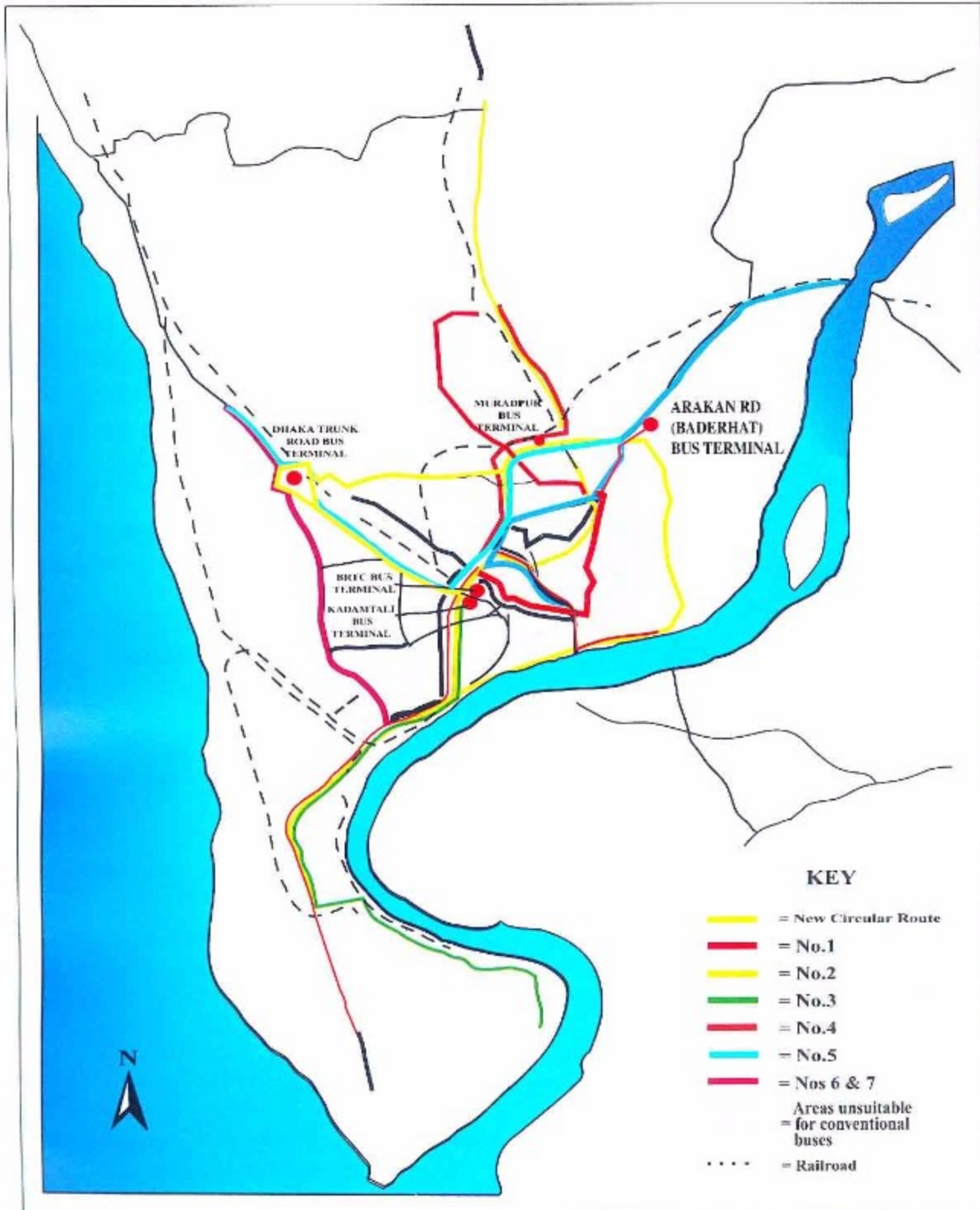


Figure 7.3 STRATEGIC HIGHWAY DEVELOPMENT





**Figure 3.3 POSSIBLE BUS ROUTES AFTER CONSTRUCTION OF NEW MISSING LINK IN INNER RING ROAD & IMPROVEMENT TO OTHER PRIMARY LINKS**

Table 6.12 Investment Programme (Tk Million)

Section	1994 to 1997	1998 to 2001	2002 to 2006	2007 to 2001	Total
New road along river wall to Karnaphuli Bridge Strand Rd. and Sadarghat Improvements (1)	591.7				591.7
Zakir Hussain Rd. Widening and Improvements	139.3				139.3
Other Widening and Improvements –					
Dhaka Trunk Road (outer Sections)			155.0		155.0
Port Connecting Road (2)			26.2		26.2
Double Mooring and Patenga Rds	9.1				9.1
Sheikh Mujib, Dewanthat Bridge	36.5				36.5
Tigerpass, MMA, CDA Avenue					
Karnaphuli Bridge Rd		34.8			34.8
Pologround Road	5.0				5.0
Station Road	5.8				5.8
Sarwardi	1.8				1.8
Kapasgola	6.5				6.5
N. Siraj	7.9				7.9
Anderkilla	2.6				2.6
Laldighi			0.9		0.9
Court Road	1.8				1.8
Arakan Road		117.1			117.1
Baizid Bostami Road		38.4			38.4
Pahartali			29.2		29.2
Dhaka Trunk Rd (inner sections)				286.4	286.4
Sub-total (Other Widening & Improvements)	77.0	190.3	211.3	286.4	765.0
Railway overbridges	74.7	22.7	6.8	8.2	112.4
Madambirhat Bridge			16.6		16.6
Rampur/Agrabad Access Rds & Link From Dhaka Trunk Rd to Zakir Hussain Rd (3)	185.0	185.0			370.0
Bakhali Access Rds (4)	80.5	80.5	80.5	80.5	322.0
Kulgaon E-W Access Rds (5)		67.5	67.5		135.0
Foy's Lake to Hathazari Access Rds (6)	80.5	80.5	80.5	80.5	322.0

Roads in New Growth Centers					
– Bairag, Sultanpur, Halga (7)	260.4	260.4	260.4	781.2	
– Patiya, Purba Gomdandi, Sikalbaha (8)	217.0	217.0	217.0	651.0	
Chatori, Anowara (7)	217.0	217.0	217.0	651.0	
– Kumira, Gahira, Pahartali (9)	21.7	21.7	21.7	65.1	
Sub-total (Roads in New Growth Centres)	499.1	499.1	499.1	1497.3	
<b>Total</b>	<b>1228.7</b>	<b>1125.6</b>	<b>962.3</b>	<b>954.7</b>	<b>4271.3</b>

#### Assumed Sources of Capital

– International Loans (World Bank, ADB etc.)	876.5	213.0	233.8	294.6	1617.9
– GoB	6.2	0	0.9	0	7.1
– CDA / CCC (10)	346	912.6	727.6	660.1	2646.3
<b>Total</b>	<b>1228.7</b>	<b>1125.6</b>	<b>962.3</b>	<b>954.7</b>	<b>4271.3</b>

- Note : (1) The cost of the second new link, via Feringhee Bazar, not included. See section 6.2
- (2) Suggested exceptional traffic growth since the study should be reviewed, and consideration given to advancing this scheme
- (3) 4km of road (4) 4km of Road
- (5) 2km of Road (6) 4km of road
- (7) 6km of road in each growth centre
- (8) 3km of road in each growth centre
- (9) 0.5km of road in each growth centre.
- (10) Presumed to be self - financing : costs to be recouped from sales of adjacent land.

Additional maintenance burden :

1994 to 1997 Tk. 57.2 million per year

1997 to 2001 Tk 107.5 million per year

2001 to 2006 Tk. 149.54 million per year

2006 to 2011 Tk. 189.0 million per year

**Figure 7.2 Draft Project Implementation Plan**

Project Component :	Period :	1995-1999	2000-2004	2005-2009	2010-2101
First Phase					
IAP PIU, CTC Formation					
IAP Implementation Period					
Technical Assistance (A)					
Second Phase					
Highways and Junction Improvements					
Technical Assistance (B)					
Rail Overbridges					
Public Transport Service Improvements, Phase II					
Construction of Terminal Facilities etc.					
LTDS STPU, TCC & PIU Formation					

**Notes**

TA (A) Traffic Engineer, Traffic Police Advisor, Public Transport Route Planner

TA (B) Transport Planner + Local GIS Support, Design and Supervision

## 1. INTRODUCTION

This report has been prepared, as the third of three main reports, as part of the Transportation Component (2C) of the UNCHS BGD-88-052 project entitled "*Preparation of Structure Plan, Master Plan, and Detailed Area Plan for Chittagong.*"

### 1.1 STUDY COMPONENTS

The three phases of the Traffic and Transport Study are :

- (a) to establish a database of information about transport infrastructure and services in Chittagong and present analyses of the traffic and transport situation in Chittagong, reported in the "*Present Situation Report*" of November 1992;
- (b) to recommend realistic and affordable measures for Immediate Action for Improvement of traffic and transport services in Chittagong and prepare a supporting Investment Programme, reported in the "*Immediate Action Plan Report*" of December 1993; and
- (c) to prepare a Long Term Development Strategy and supporting Investment Programme for Chittagong, reported in the "*Long Term Development Strategy Report*" of September 1994.

### 1.2 OBJECTIVES

The detailed objectives specified within the TOR are :

- (a) preparation of a Long Term Transport Development Strategy principally for the Chittagong Metropolitan Area; and
- (b) identification of an Investment Programme to a degree of a detail suitable for further appraisal and subsequent funding by an International Funding Agency.

Some additional guidelines were proposed within the TOR. These are listed as follows :

- (a) the strategy should consider the affordability of investments and operating subsidies, with particular attention to the poorest sectors of the community<sup>1</sup>; it should be based on economic considerations and follow Government priorities; (affordability as defined in terms of user charges and debt servicing);

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<sup>1</sup>Low income groups are best served by ensuring accessibility to an affordable public transport service, thus enabling increased employment opportunities.

- (b) the strategy should be developed after consideration of the impact of alternative spatial development strategies<sup>2</sup>; and
- (c) the strategy should relate to the preferred spatial development strategy over a twenty - year period, tailored to meet passenger and goods traffic forecasts.

### 1.3 SYNOPSIS OF PREVIOUS AND ONGOING STUDIES

#### 1.3.1 General

At the strategic level, the policy components within the *"Fifth Five Year Plan for Bangladesh"* are of great significance. In pursuit of the goal of self-reliance, the LTDS has proposed solutions that are capable of being delivered within the country's technological and resource capacity. The goal of economic development is addressed through the provision of increased choice of transport mode and service for transport users, rather than through large reductions in travel time. The goal of alleviation of poverty is addressed through the provision of low cost public transport services.

#### 1.3.2 Planning and Infrastructure Studies

Previous studies of the traffic and transport problems of Chittagong are reviewed briefly in Annex 1.

##### *Ongoing Planning and Infrastructure Studies*

This report refers, where appropriate, to the main reports and working papers issued by Planning Component 2A and Drainage Component 2B. Of these, the *"Chittagong Stormwater Drainage and Flood Control Master Plan"* of March 1994 and the Component 2A Working Papers referred to below are particularly important.

The forecasts of land use development for the area (see Working Paper 7, *"Traffic Forecasts"*), which form the basis of the traffic projections prepared by the Consultant, were based principally on the Planning Component 2A Working Papers entitled *"Preliminary Strategic Plan"* and *"Alternative Spatial Development Strategies,"* issued in September and December 1993 respectively. The *"Evaluation of Alternative Spatial Development Strategies from a Transport Perspective"* was documented in Working Paper 12 of April 1994. This report examined in detail the costs and benefits of alternative spatial strategies and advised on, from the transport perspective, the alternative and preferred spatial development strategy.

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This work was fully documented in working papers and was approved by the TMC in April 1994.

Following discussions of the findings of the various planning reports, instructions were received in April 1994, as set out in the Minutes of the Fifth TMC Meeting, to aim for "a combination of Strategy<sup>1</sup> Concentration of Development within the City and Strategy 3 Strengthening the Growth Centres in the study area outside the City". Additionally, we were instructed to consider Strategies 5, 6 & 7 in the preparation of the LTDS.

Several meetings were held with the DMDP Planning Team in Dhaka, Consultants to the UN funded DMDP project. (With UN HABITAT as executing agency and local client RAJUK, under the Ministry of Public Works)<sup>3</sup>. Documents were also received from the ADB funded project : ADB TA 1609-BAN<sup>4</sup>.

### 1.3.3 Traffic and Transport Studies

The principal reference for previous studies of transport in Bangladesh has been the "World Bank Transport Sector Review" that was published in 1990. This was a comprehensive review of current activity in the transport sector and focused on public expenditure. Urban Transport was not specifically covered, although a study of BRTC operations and finance was undertaken. At present a further "Bangladesh Transport Sector Review" (BTTS) is being funded by UN although no publications were available to date.

#### *Ongoing Traffic and Transportation Studies*

This report refers to many of the issues previously covered in interim reports and working papers produced by the Transportation Component 2C since 1992, as listed in Annex 2. The "*Immediate Action Plan*" (IAP) envisaged the setting up of an Action Plan Implementation Unit to implement the IAP initiatives. To date, although work on the design of low cost junction improvements in Chittagong is continuing, there has been no move to form the IAP Unit. Only brief reference is made here to the recommendations proposed in the "*Immediate Action Plan Report*," of December 1993.

(The "Immediate Action Plan" report was received by the Technical Sub-committee of the Steering Group and subsequently extensive informative comments were received from CDA, the Police Commissioner and other interested parties. The Consultants responded to these comments with a series of explanatory meetings held in April and May 1994, which are documented in Annex 2).

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<sup>3</sup> The main reference being the report entitled "*DHAKA Transportation*," of December 1992, Mott McDonald, Culpin Planning.

<sup>4</sup> The main reference being the report entitled "*Formulation of Land Development Controls and Procedures for Dhaka City*," Culpin Planning.