

A STUDY ON SPATIAL DISTRIBUTION OF TRUCK  
TERMINALS / STANDS IN GREATER DHAKA

MD. NASIR ULLAH

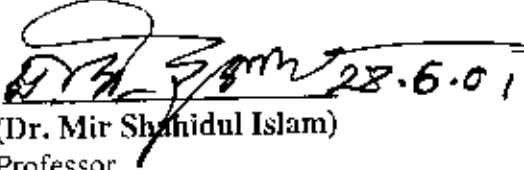


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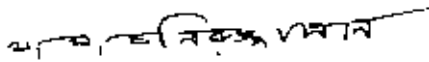
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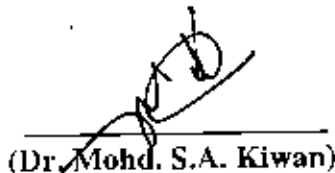
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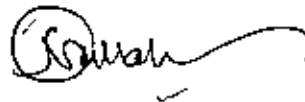
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**Dedicated To My Loving Parents.**

## CONTENTS



### CHAPTER

	Page No.
Contents	v-xi
List of Tables	xii
List of Graphs	xiv
List of Photographs	xv
List of Abbreviations	xvi
Acknowledgments	xvii
Abstract	xix

## CHAPTER 1

### INTRODUCTION

1.1	Introduction	1
1.2	Statement of the problem	2
1.3	Objectives of the study	3
1.4	Methodology of the study	3
	1.4.1 Determination of acceptability of terminals/stands	3
	1.4.2 Data collection	4
	1.4.3 Data analysis	4
1.5	Scope and limitations of the study	4
1.6	Organization of the thesis	6

## CHAPTER 2

### LITERATURE REVIEW

2.1	Introduction	7
2.2	Selected sites	7
2.3	Main tasks	7
2.4	Assumptions	7
2.5	Concept for plan hypothesis	8
2.6	Types and dimension of trucks	8
2.7	Traffic flow considerations in a truck depot/park	9

## CHAPTER 3

### FINDINGS FROM TERMINAL MANAGERS/AUTHORITIES, TRUCK DRIVERS AND TRUCK OWNERS' SURVEY

3.1	Introduction	11
3.2	Characteristics of the respondents	11
3.2.1	Age structure of the respondents	11
3.2.2	Educational qualifications of the respondents	12
3.2.3	Occupations of the respondents	12
3.2.4	Official status & parking pattern of the existing truck terminals/stands	13
3.2.5	Types (Models) & Capacity (in Tons)	14
3.2.6	Parking space of existing truck terminals/stands	14
3.2.7	Existing land situation for truck terminals/stands	14
3.2.8	Amount & ownership of land for truck terminals/stands	15
3.2.9	Existing truck driving time in Dhaka city	15
3.2.10	Existing facilities of truck terminals/stands	16
3.2.11	Monthly income, expenditure and savings of truck drivers	16
3.2.12	Attitude towards truck driving as a profession	17
3.2.13	Reasons of taking the profession choose	17
3.2.14	Existing loading and unloading centres	17
3.2.15	Materials carried by trucks	18
3.2.16	Roads used by trucks	18
3.2.17	Roads used by Inter-district trucks	18
3.2.18	No. of hours of truck operation per day	19
3.2.19	Consignment of trucks	19
3.2.20	Problems of truck movement in Dhaka city	19
3.2.21	Road accidents by truck drivers & their reasons	20
3.2.22	Suggestions to eliminate truck accidents	20

3.2.23	Accidents due to reckless truck driving	21
3.2.24	Traffic congestion generated by trucks	21
3.2.25	Causes of traffic congestion	21
3.2.26	Opinion about one week's rest after long way drive	22
3.2.27	Parking charge	22
3.2.28	No. of truck owners' trucks	22
3.2.29	Monthly income, expenditure and savings of truck owners (for one truck)	23
3.2.30	Truck owners plan to add more trucks in their fleet in the near future	23
3.2.31	Comments of terminal managers/authorities, truck owners and drivers	23
3.3	Analysis of truck terminals/stands by the respondents opinion	
3.3.1	Tejgaon Truck Terminal	24
3.3.2	Dayagonj Truck Depot	25
3.3.3	Tongi Truck Stand	25
3.3.4	Pagla Truck Terminal	26
3.3.5	Saidabad Truck Terminal	26
3.3.6	Mohammadpur Truck Stand	26
3.3.7	Aminbazar Truck Terminal	27
3.3.8	English Road- Armanitola	27
3.3.9	Gabtali Truck Stand	28
3.3.10	Dolaikhal Truck Terminal	28
3.3.11	Keranigonj Container Port	28
3.3.12	Kamlapur Inland Container Port	29
3.3.13	Wise-Ghat Truck Terminal	29
3.3.14	Chandkha Pool Truck Stand	29
3.3.15	Shiddhirgonj Truck Stand	29
3.4	Opinions on prospective role of terminals/stands	30
3.5	Summary of the findings	30

## CHAPTER 4

### TRUCK MOVEMENT ROADS, LOADING-UNLOADING CENTRES AND FUTURE ESTABLISHMENT FOR TRUCK TERMINALS/STANDS

4.1	Road classification	33
4.1.1	Primary roads	33
4.1.2	Secondary roads	33
4.1.3	Connector roads	33
4.1.4	Local roads	33
4.2	Road classification by DUTP Phase-I	33
4.3	Road distribution of movement trucks	34
4.3.1	Primary roads	34
4.3.1.1	Mukti Saram	34
4.3.1.2	Narayangonj road	34
4.3.1.3	Mawa road	35
4.3.1.4	Atish Dipankar road	35
4.3.1.5	Airport road-Mymensingh road	35
4.3.1.6	Mirpur road	35
4.3.1.7	Eastern By-pass	35
4.3.1.8	Western By-pass	35
4.3.2	Secondary roads	36
4.3.2.1	Hari Chandra Ray road- S.K.Das road- Lalmohon Shaha street	36
4.3.2.2	Dayagonj-Hatkhola- Fulbaria- Katabon- Sonargaon road.	36
4.3.2.3	Motijheel- Topkana-Moulana Bhasani- Kakrail-Toyenbee Circular road.	36
4.3.2.4	Manik Miha Avenue	37
4.3.2.5	Pantha path	37
4.3.2.6	Darusalam road	37
4.3.2.7	Gulistan- Jatrabarri road	37



4.3.2.8	Rokeya Sarani road	37
4.3.2.9	Progati Sarani road	37
4.3.2.10	Dhannondi road 2- Satmadjid road.	37
4.4	Loading and unloading centers	38
4.5	Future establishment for truck terminals/stands	40
4.5.1	Growth of truck fleet	40
4.6	Determination of relative importance of the terminals/stands	41
4.7	Demand of trucks	42
4.8	Forecast of number of trucks in 2006	43
4.9	Need for parking space	45
4.10	Land requirements	46
4.11	Conceptual distribution of land	47
4.12	Distribution of truck terminal/stand	47
4.13	Advantage and disadvantage for government, truck owners and truck drivers by truck transport	49
4.14	Economic assessment of truck terminals/stands	50

## **CHAPTER 5**

### **PROPOSED AND GEOGRAPHICAL LOCATIONS WITH SITE CHARACTERISTICS, DESIGN AND LAYOUT PLAN FOR TRUCK TERMINALS/STANDS IN GREATER DHAKA**

5.1	Introduction	51
5.1.1	Kanchpur	51
5.1.2	Aminbazar	51
5.1.3	Tongi	52
5.1.4	Zinjira	52
5.1.5	Tejgaon	53
5.1.6	Pagla	53
5.1.7	Mohammadpur	53
5.1.8	Gubtali	54
5.1.9	Dayagonj	54

5.2	Design and Layout Plans for nine truck terminals/stands	54
5.2.1	Kanchpur Truck Terminal	54
5.2.2	Aminbaza Truck Terminal	54
5.2.3	Tongi Truck Terminal	55
5.2.4	Zinjura Truck Terminal	55
5.2.5	Tejgaon Truck Stand	55
5.2.6	Pagla Truck Stand	55
5.2.7	Mohammadpur Truck Stand	55
5.2.8	Gubtali Truck Stand	55
5.2.9	Dayagonj Truck Stand	55
5.3	Truck parking space : Demand and Supply	56
5.4	Land ownership pattern of the proposed terminals/stands.	57
5.5	Planned land use analysis of the terminals/stands:	58
5.5.1	Parking space	58
5.5.2	Inner circulation space	58
5.5.3	Service area	59
<b>CHAPTER 6</b>		
<b>SUMMARY, CONCLUSIONS AND RECOMMENDARIONS</b>		
6.1	Introduction	63
6.2	Summary and findings of the research work	63
6.3	Conclusions	63
6.4	Recommendations for truck parking policy	64
6.5	Recommendations for future research.	65
<b>REFERENCES</b>		66

## **APPENDICES**

**A-D**

### **APPENDIX-A**

Questionnaire-a

Questionnaire-b

Questionnaire-c

Collection of information

List of truck terminals/stands/parks to be surveyed

### **APPENDIX-B**

#### **MAPS REPRESENTATION**

Figure B-2.1 Selected five high priority sites for truck depots/parks  
by DUTP-II

Figure B-4.1 Road classification for truck movement in greater Dhaka

Figure B-4.2 Existing loading & unloading centers of main  
truck terminals/stands in greater Dhaka

Figure B-5.1 Geographical locations and proposed 9 truck  
terminals/stands for greater Dhaka

### **APPENDIX-C**

#### **PHOTOGRAPHIC REPRESENTATION**

### **APPENDIX-D**

#### **CONCEPTUAL LAYOUT PLANS REPRESENTATION**

Figure D-5.1 Conceptual Layout Plan for Kanchpur Truck Terminal

Figure D-5.2 Conceptual Layout Plan for Aminbazar Truck Terminal

Figure D-5.3 Conceptual Layout Plan for Tongi Truck Terminal

Figure D-5.4 Conceptual Layout Plan for Zinjira Truck Terminal

Figure D-5.5 Conceptual Layout Plan for Tejgaon Truck Stand

Figure D-5.6 Conceptual Layout Plan for Pagla Truck Stand

Figure D-5.7 Conceptual Layout Plan for Mohammadpur Truck Stand

Figure D-5.8 Conceptual Layout Plan for Gubtali Truck Stand

Figure D-5.9 Conceptual Layout Plan for Dayagonj Truck Stand

## LIST OF TABLES

Table No.	Title	Page No.
2.1	Truck depots/parks (Type & Dimension of trucks)	9
3.1	Age structure of the respondents.	11
3.2	Educational Qualifications of the respondents.	12
3.3	Occupations of the respondents.	12
3.4	Official status and parking pattern of the existing truck terminals/stands	13
3.5	Types (Models) and Capacity (Tons) of trucks	14
3.6	Comments of parking space of existing truck terminals/ stands by managers/authorities	14
3.7	Existing land situation for truck terminals/stands	14
3.8	Amount and ownership of land for truck terminals/stands	15
3.9	Existing truck driving time in Dhaka city	15
3.10	Existing facilities of truck terminals/stands	16
3.11	Monthly income, expenditure and savings of truck drivers	16
3.12	Attitude towards truck driving as a profession	17
3.13	Reasons of taking the profession choose	17
3.14	Existing loading and unloading centres	17
3.15	Materials carried by trucks	18
3.16	Roads used by trucks	18
3.17	Roads used by Inter-district trucks	18
3.18	No. of hours of truck operation per day	19
3.19	Consignment of trucks is increasing day by day	19
3.20	Problem of truck movement in Dhaka city	19
3.21	Responsible for road accidents by truck drivers and their reasons	20
3.22	Some suggestions to eliminate accidents by truck drivers	20
3.23	Reckless driving of trucks is responsible for road accidents	21

3.24	Traffic congestion generated by trucks due to loading and unloading on the road	21
3.25	Main causes of traffic congestion	21
3.26	Opinion about one week's rest after long way drive	22
3.27	Parking charge during per night or per hourly	22
3.28	The engagement of the owners' trucks in their business	22
3.29	Monthly income, expenditure and savings of truck owners (for one truck)	23
3.30	Truck owners plan to add trucks in their fleet in the near future	23
3.31	Comments of terminal managers/authorities, truck owners & drivers proposal to establish truck terminals/stands in greater Dhaka	23
4.1	Number of trucks in whole Bangladesh.	40
4.2	Rate of growth in whole Bangladesh.	41
4.3	Number of trucks on road in greater Dhaka and Bangladesh	41
4.4	Numbers of trucks registered in Dhaka yearly.	41
4.5	Changes of population and vehicle fleet (1992 to 1997) in Dhaka.	43
4.6	Forecast for trucks in greater Dhaka (1991-2006).	44
4.7	Forecast for trucks in greater Dhaka 1997-2021 (Base year 1997)	45
4.8	Types and Dimension of trucks.	46
4.9	Existing distribution of parking space demand and supply for the year 2000.	48
4.10	Proposed & approximate distribution of parking space demand and supply for the year 2021	49
5.1	Parking space demand, supply and deficit to the proposed truck terminals/stands (Up to year 2021)	56
5.2	Land ownership pattern of truck terminals/stands (Area in hectare)	58
5.3	Planned land use analysis of truck terminals/stands (Area in hectares)	59

## LIST OF GRAPHS

### GRAPHICAL REPRESENTATION

		Page No.
Figure 1.1	Flow diagram of methodological steps followed in the study	5
Figure 4.1	Number of trucks in whole Bangladesh	40
Figure 4.2	Number of trucks registered in Dhaka city as yearly	42
Figure 4.3	Forecast for trucks in greater Dhaka (1991-2006)	44
Figure 4.4	Forecast for trucks in greater Dhaka (1997-2021)	45
Figure 5.1	Parking space demand, supply and deficit to the proposed truck terminals/stands	57

## LIST OF PHOTOGRAPHS

	<b>Name of the Terminals/Stand</b>
Plate C-3.1	Existing Tejgaon Truck Terminal
Plate C-3.2	Existing Dayagonj Truck Depot
Plate C-3.3	Existing Tongi Truck Stand on both sides of the road
Plate C-3.4	Existing loading process on road side at Pagla Truck Terminal
Plate C-3.5	Existing Saidabad Truck Terminal
Plate C-3.6	Existing Truck Stand on the road space at Mohammadpur
Plate C-3.7	Existing Truck Terminal on both sides of road space at Aminbazar
Plate C-3.8	Existing Truck Stand on English road
Plate C-3.9	Existing Truck Stand at Armanitola
Plate C-3.10	Existing Truck Stand on both sides of road space at Gubtali
Plate C-3.11	Existing Truck Terminal at Dolaikhal
Plate C-3.12	Existing Truck Terminal at Kamlapur
Plate C-3.13	Existing Truck Terminal at Wise-Ghat
Plate C-3.14	Existing Truck Stand on the road space at Chankha Pool
Plate C-3.15	Existing Truck Stand at Siddhirgonj
Plate C-5.1	Proposed site for new Truck Terminal at Kanchpur
Plate C-5.2	Constructed new Tuck Terminal by DCC at Aminbazar
Plate C-5.3	Proposed site for new Tuck Sand at Tongi
Plate C-5.4	Proposed site for new Truck Terminal at Zinjira
Plate C-5.5	Proposed site for new Truck Terminal at Tejgaon
Plate C-5.6	Proposed pond for new Truck Terminal at Pagla
Plate C-5.7	Proposed site for new Truck Stand at Basila (Mohammadpur)
Plate C-5.8	Proposed site for new Truck Stand at Gubtali
Plate C-5.9	Proposed expansion of existing Truck Depot at Dayagonj
Plate C-5.2a	Easily parking system at Tongi Truck Stand
Plate C-5.2b	Diagram of Truck Terminals (Docks)

## LIST OF ABBREVIATIONS

Approx.	Approximate
BITDU	Bangladesh Inter-district Truck Drivers Union
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
BTMS	Bangladesh Truck Malik Samiti
BUET	Bangladesh University of Engineering and Technology
CSD	Central Storage Depot
DCC	Dhaka City Corporation
DDC	Development Design Consultants
DITS	Dhaka Integrated Transport Study
DMDP	Dhaka Metropolitan Development Plan
DU	Dhaka University
DUTP-I	Dhaka Urban Transport Project-Phase I
DUTP-II	Dhaka Urban Transport Project-Phase II
etc.	et ceteri or et cetera (= and the others, and so forth)
MT	Motorized Transport
MURP	Master of Urban and Regional Planning
NCIIRP	National Cooperative Highway Research Program
NMT	Non Motorized Transport
PDO	Property Damage Only
RAJUK	Rajdhani Unnaion Kartriphakka
sq. m.	square meter
TCD	Traffic Control Devices
TERs	Truck Escape Rams
US	United States
VMT	Vehicle Miles Traveled
WZ	Work Zone
Yr.	Year



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(Md. Nasir Ullah)

## ABSTRACT

This research work presents a study on spatial distribution of truck terminals/stands in greater Dhaka. All the authorized and unauthorized truck terminals/stands in greater Dhaka utilize valuable road spaces. But haphazard parking is responsible for road accidents, traffic jam and environment pollution. Major objectives of the study were: to identify existing truck stands/terminals with transfer facilities; to examine specific loading/unloading centers in the city in terms of the facilities required for such centers; to identify the truck routes specially for heavy goods movement by inter-district trucks; and to formulate a set of policy guidelines for the improvement of truck stands/terminals in greater Dhaka. The methodological procedure of the study were: determination of acceptability of terminals/stands; data collection and data analysis. In this study, the survey was carried out on a total of 15 truck terminals/stands in greater Dhaka and 15 terminal managers/authorities, 600 truck drivers and 120 truck owners who were interviewed in the individual questionnaire survey. It is found from the survey that only Dayagonj Truck Depot is authorized and organized by government (DCC). Its area is 1 hectare and parking capacity involves only 200 trucks out of 13212 trucks in 15 truck terminals/stands, where 36.20 hectares of land is needed for the year 2000. According to this forecast this figure will need 72.34 hectares land for 26405 trucks in the year 2021. It is a great loss of government revenue as truck parking fees amounting to Tk. 76.04 millions yearly in only greater Dhaka. In this study, 100% respondents proposed to formulize and to give official status to truck terminals/stands in greater Dhaka. According to the respondents, 9 locations are considered for truck terminals/stands : Kanchpur, Aminbazar, Tongi, Zinjira, Tejgaon, Pagla, Mohammadpur, Gubtali and Dayagonj. This is expected to reduce traffic jams and kerbside truck parking on major roads, reduce road accidents and stop environment pollution in the interest of the country as well as of greater Dhaka.

## CHAPTER 1

### 1.1 INTRODUCTION

Bangladesh is an independent country. It is a relatively small country covering an area over 1,44,000 sq. km. Dhaka is the capital city of Bangladesh and it is the main catalyst of economic activity of the country. The recent increase in the population of Dhaka Metropolitan area has far exceeded in all projections. The population increased from 0.28 million in 1951 to around 1.2 million in 1971. But now it is about 11 million and the figure is likely to be 25 million in 2025 (Source: Observer Magazine, 2000). People are aware that the rapid growth of Dhaka is creating an urban transport crisis. With her rapid rate of growth and development, sustainability has emerged as a critical issue for all planning and development endeavors for the city. The reason for this increase seems to be its growing importance as the centre of administration, education, commerce, trade and industry etc. Consequently, the ever-increasing people in Dhaka city is making severe traffic jams. Due to increasing population, the transportation system in Dhaka city is on the verge of collapse. The unplanned transportation system will adversely affect the living condition, our productivity, quality of life and the social and physical environment. Therefore, a large number of the population in the city itself is also a generator of transport demand for goods. Goods have to be moved within the city and from one place of processing to another. DITS has already identified that the goods reach greater Dhaka or are transported there by river craft, rail and intercity trucks. From the transfer stations or terminals the goods are brought to the end users, in most cases by rickshaw, vans, push cart in the case of consumable goods, and by two axle truck in the case of heavy loads of building materials. The main issue related to the goods movement identified by DITS team is the poor utilization of freight vehicles. The growth in freight services is paralleling the rapid growth of greater Dhaka. The major tendency of the pattern of growth is towards the north of Mirpur, Uttara, Tongi, Isupgonj, Matuail, Keranigonj etc.

The city expansion has brought with it an increased requirement of building materials and it is essential for transportation of foodstuff into the city and for transport of finished product out of the city. Water transport is important in providing a means of transportation of these products to and from the city. To a lesser extent rail performs a similar function but the major growth has been in the utilization of heavy trucks. These are used to transport goods between the districts with 44% of the country's truck movement to and from Dhaka. Building materials from nearby sources like sand, earth and bricks together with cement are generally brought from the south and west of Dhaka by water transport (Source DUTP-I).

## 1.2 STATEMENT OF THE PROBLEM

In Dhaka city goods movement activities have been centralized. The important roads of the city are always busy. Major portion of goods are supplied to wholesale centers by trucks. Most of the wholesale centers are located at old Dhaka. The roads are very narrow at old Dhaka. It is a great problem for movements of trucks and other heavy vehicles. Some of the major problems identified are due to haphazard parking of trucks: All the truck terminals/stands (authorized and unauthorized) utilize valuable road spaces and cause the delay, accidents and a general lack of orderliness on the road. Traffic problem is caused by the transfer to and from smaller vehicles while being parked on primary roads. Most of the children's parks cannot be used due to haphazard parking of trucks. Heavy traffic congestion by truck parking along the busy roads particularly at intersections is very common and severe pressure on the major roads including roads of old Dhaka is responsible for accidents and traffic jam. So trucks as mentioned above are the expanding sector of goods movement to and from the city, the city center and the NMT movements. With the poor management of different goods movement facilities, they often have to wait for long to be served or to get a new consignment to move. Waiting places are scarce and if available, they often lack communication facilities for easy movements. A few truck stands for night parking are available at a number of places. But often for lack of formal status those poorly handled trucks are parked haphazardly and cannot be utilized at the time of need.

### **1.3 OBJECTIVES OF THE STUDY**

Major objectives of the study undertaken were:

- (i) To identify existing truck stands/terminals with transfer facilities.
- (ii) To examine specific loading/unloading centers in the city in terms of the facilities required for such centers.
- (iii) To identify the truck routes specially for heavy goods movement by inter-district trucks.
- (iv) To formulate a set of policy guidelines for the improvement of truck stands/terminals in greater Dhaka.

### **1.4 METHODOLOGY OF THE STUDY**

For the above fixed objectives, the following methodological procedure were followed:

#### **1.4.1 DETERMINATION OF ACCEPTABILITY OF TERMINALS/STANDS**

A survey of 15 truck terminals/stands were carried out by interviewing the terminal managers/authorities, truck drivers and truck owners through three types of questionnaires which are given in appendix-A and the existing truck terminals/stands shown in Figure B-4.2.

The questions set concerned individual profiles of the terminal managers/authorities, truck drivers and truck owners with their educational levels, socio-economic characteristics, facilities of terminals/stands, plies of truck routes, responsible for road accidents and traffic congestion etc. and their opinion regarding their role in improving conditions of truck terminals/stands in greater Dhaka.

## **1.4.2 DATA COLLECTION**

This research utilized primary data collected from field survey (appendix-A) and secondary sources like from BRTA, DCC, DITS, Daily News Paper and Magazine etc. A total of 600 truck drivers, 120 truck owners and 15 truck terminals' managers/authorities were served three different types of questionnaire. The surveyed result and their opinions were expressed in Chapter-3. The existing conditions of 15 truck stands and terminals are also recorded. All other information are recorded like proposal for new truck terminals/stands from terminal managers/authorities, truck owners and truck drivers respectively.

## **1.4.3 DATA ANALYSIS**

Collected data have been analysed using a standard statistical computer package program like as SPSS and Excel, which are used for graphical representation of data in this study. The methodological steps followed in this study have been illustrated with the flow diagram in Figure 1.1.

## **1.5 SCOPE AND LIMITATIONS OF THE STUDY**

The major limitation of this study was its limited 15 selected terminals/stands out of large & small truck stands/terminals in greater Dhaka in view of their important role in goods movements and support  $\frac{3}{4}$  (approx.) population in greater Dhaka. So it is not possible to collect all data or all identified truck terminals/stands with truck routes for this study.

Another limitation in scope of the study was the current data 1997. The recent data could not be collected from BRTA. Only 1997 data and the assumption of trucks for 2021 were found. There estimated assumption was approximate. Perhaps, it may not be suitable for greater Dhaka.

Also another limitation only 8 types of truck are considered for this study. But there is no consideration of large trucks with different size and shapes. In modern age, these trucks are used in different industries or firms and other sectors.

## Methodology

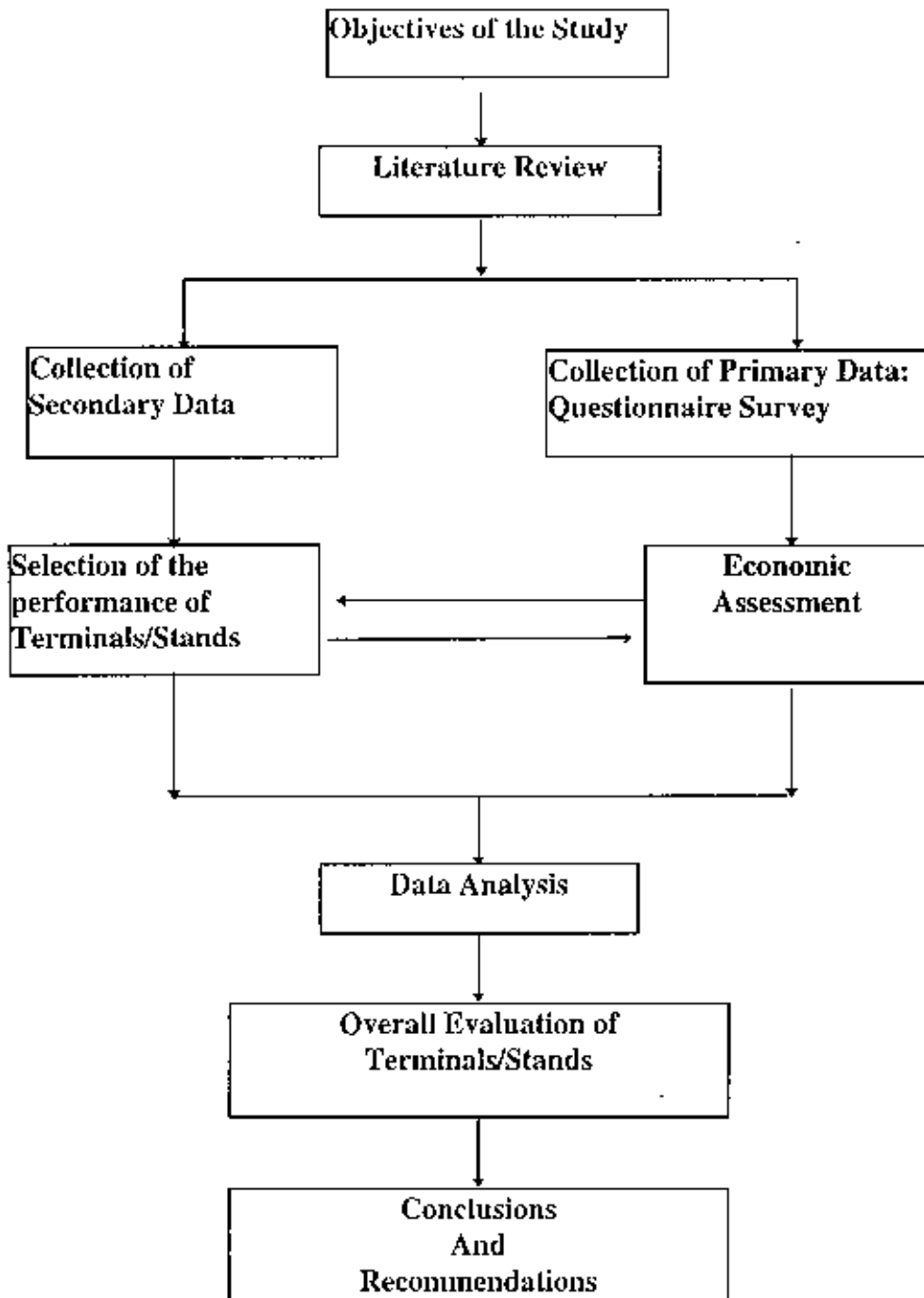


Figure 1.1: Flow diagram of methodological steps followed in the study.



## 1.6 ORGANIZATION OF THE THESIS

This thesis comprising six chapters are presented below:

- Chapter-1:** Synopsis of the whole thesis.
- Chapter-2:** Presentation of a brief review of literature relevant to this study.
- Chapter-3:** Presentation of the findings from terminal managers/authorities, truck drivers and truck owners' opinion during the survey.
- Chapter-4:** Presentation of the truck movement roads, loading-unloading centres and future establishment for truck terminals/stands in greater Dhaka.
- Chapter-5:** Presentation of design and layout plan for nine truck terminals/stands.
- Chapter-6:** Summary, Conclusion and Recommendations of the thesis.

## CHAPTER 2 LITERATURE REVIEW

### 2.1 INTRODUCTION

Besides the study conducted at Bangladesh Road Transport Authority (1996) by DDC Limited and Mott Mac Donald Limited, two more studies were done entitled Dhaka Urban Transport Project-Phase I (DUTP-I): Goods Movement and Dhaka Urban Transport Project-Phase II (DUTP-II): Design of Truck Terminals. On the basis of the highest priority offered to truck depots/parks, 5 sites were selected in that study. A summary of plans, models, designs and measures of that study is now presented in this chapter.

The principal steps of DUTP-II were briefly as follows :

### 2.2 SELECTED SITES

The five top priority sites were selected at Pagla, Matuail, Tejgaon, Mohammadpur and Aminbazar in Figure B-2.1 for truck depots/parks/stands in Dhaka city.

### 2.3 MAIN TASKS

For the nominated truck depots/parks the following main tasks were undertaken and completed: "(i) completion of physical surveys for the nominated sites, (ii) preparation of physical survey maps, (iii) estimation of land needed for creating truck parking space, internal circulation, repair, transfer facilities, administration, rest house and other related functions in each depots/parks and (iv) identification of truck routes in relation to the sites of the truck depots/parks with integration of wholesale trading centres."

### 2.4 ASSUMPTIONS

A goods movement system is dynamic with rolling stock and infrastructure and it varies from country to country. So some basic assumptions are needed to prepare the concept plans for truck depots/parks. They are tentatively specified under present circumstances : "(i) the dimensions of trucks to be considered for parking space requirements are the dimensions of trucks now in operation in Dhaka, (ii) no provision will be provided for parking long carrier like tractor-trailers, (iii) the wholesale trading centres will continue to operate at their present locations, (iv) the

existing truck ban period will continue to operate, (v) the optimization of space for trucks park on-site, irrespective of parking demand, (vi) a truck of greatest dimension will be considered as one unit of truck parking space and (vii) no provision will be provided for parking of trucks having a carrying capacity of below 3 tons".

## **2.5 CONCEPT FOR PLAN HYPOTHESIS**

The concept plans for truck depots/parks will be needed at the extent of land available and not on the demand of parking at parking space. The land will be used in different functions such as space for parking, entry, exit, interior circulation roads, truck repairing and servicing, truck drivers and management functions. For each function the amount of land may vary from site to site and will be distributed in view of specific characteristics of site. Transfer facilities are not usually provided in the truck depots/parks. Trucks are needed for loading and unloading on central points as well as on the kerbside. Two axle trucks are used to carry building materials and non-motorized transport like rickshaw, vans and push-carts are used to deliver consumable goods to the end users. Goods are not located on the sites in the truck depots/parks and so no terminal facilities are provided. Terminal transfer facilities may be provided on the truck depots/parks on experimental basis to avoid long time waiting at points and kerb site and to prevent the entry of trucks in narrow roads. For loading and unloading materials from heavy trucks will be carried by rickshaw, vans, auto-vans and small pick-up.

## **2.6 TYPE AND DIMENSION OF TRUCKS**

The dimension of parked vehicles are maintained and adequate space provided for access and egress as well as parking regarding planning of the truck depots/parks. Carrying capacity and dimension of trucks differ from truck to truck and country to country. Trucks carrying capacity of 3 tons and above have been considered in the preparation of the concept plans for the truck depots/parks. Small trucks like the jeep truck, auto-van etc. carrying capacity of below 3 tons do not usually park on organized truck depots/parks. Table 2.1 shows the details of various trucks now operating in Dhaka.

Table 2.1 : Truck Depots/Parks (Type and Dimension of Trucks)

Type	Capacity (In Tons)	Length (In Meters)	Breadth (In Meters)	Ground Area (sq. m.)
Tata	7	7.4	2.7	19.98
Hino	6	8.1	2.5	20.25
Hindustan	6	7.75	2.9	22.47
Hindustan	5	7.5	2.5	18.75
Bedford	6	6.9	2.5	17.25
Bedford	5	7.3	2.35	17.15
Mitsubishi	3	5.9	1.9	11.15
Bedford	3	6.1	2.2	13.42

Source: DITS Working Paper No. 5, 1993

To facilitate all truck movements the space requirements for trucks will be considered for trucks parking in the planned truck depots/parks. Table 2.1 shows that the Hino truck is the longest with a length of 8.10 metres and the Hindustan truck is the broadest truck with a width of 2.90 metres. The parking space of a truck will therefore, remain 3.66 m.(12ft). The length of the parking space will be the overall length of the largest vehicle including 20 percent, i.e.  $8.10\text{m} \times 1.2$ .

It can be mentioned as the parking space per vehicle =  $(W \times L \times 1.2)$  sq. m.,

Where,  $W = 3.66$  m. (12ft.) overall width,  $L =$  overall length,  $1.2 =$  factor for the overall length of vehicle inclusive of an extra 20 percent.

Therefore, the overall space required for the longest truck and the broadest truck presently operating in Dhaka is equal to:  $W \times L \times 1.2 = 8.10 \text{ m} \times 1.2 \times 3.66\text{m} = 35.57$  sq. m. (Source: Time Saver Standards, Truck Terminals).

## 2.7 TRAFFIC FLOW CONSIDERATIONS IN A TRUCK DEPOT/PARK

The following are the basic elements needed to be considered in preparing a concept plan for a truck depot/park.

**2.7.1 Vehicle movement :** Vehicles should move in a counter clock-wise direction. The driver can see more easily the tail end of the vehicle.

**2.7.2 Service roads :** Roads should be 7 m. wide for two-direction traffic circulation. This will allow a one metre clearance for passing 2.90 wide vehicles with a 0.5 m. side clearance. The minimum width should be 3.50 to 4.00 metres for one-way roads.

**2.7.3 Roadway approaches and intersections :** For two-direction traffic gates and approaches to roadways should be at least 9 metres wide and at least 6 metres wide for one-way traffic. A minimum radius of 15 metres will be satisfactory for most vehicles on a right-angle roadway intersection.

**2.7.4 Pedestrian lanes :** These should be situated adjacent to a service road but separated from the roadway by a physical barrier. Depending on the volume of pedestrian traffic the width of the pedestrian lane can range from 1.5 m. to 2.00 m.

**2.7.5 Width of the apron space :** The length of the longest truck is desirably less than the width of the apron space. Allowing for the 3.66 metres parking width the apron space depth is 13.40 m. in one maneuvering in-bound and out-bound truck. (Time Saver Standards, Motor Transport, Table 11, October 1947).

**2.7.6 Overhead clearance :** It is recommended that a 4.25 metre height clearance be provided at docks or in yards, driveways, doors, stalls and interior roadways.

**2.7.7 Corner turn :** In a driveway 3.50 to 4.50 metres wide, the triangular area formed by the inside corner of the turn and the two points 7.25 m on each side of the corner, should be left clear. This will allow proper clearance for the turning radius of the truck (Source : DUTP-II).

## CHAPTER 3

### FINDINGS FROM TERMINAL MANAGERS/AUTHORITIES, TRUCK DRIVERS AND TRUCK OWNERS' SURVEY

#### 3.1 INTRODUCTION

A field survey was carried out about an individual such as terminal managers/authorities, truck drivers and truck owners' opinion about authorized and unauthorized truck terminals/stands in greater Dhaka. The survey was carried out for a total of 15 truck terminals/stands in greater Dhaka. The 15 terminal managers/authorities, 600 truck drivers and 120 truck owners were interviewed in the individual questionnaire survey. The survey work was performed during the different day times from the 1<sup>st</sup> January to the 25<sup>th</sup> January, 2000. Following sections of this chapter will present the respondents of an individual in the greater Dhaka based on this field survey.

#### 3.2 CHARACTERISTICS OF THE RESPONDENTS

##### 3.2.1 AGE STRUCTURE OF THE RESPONDENTS

Age structure of the terminal managers/authorities, truck drivers and truck owners are presented below in Table 3.1

Table 3.1: Age structure of the respondents (Managers/Authorities, Truck Drivers & Truck Owners)

Age group (Years)	Managers / Authorities of Truck Terminal /Stand		Truck Drivers		Truck Owners	
	Number	%	Number	%	Number	%
>=18	-	-	3	0.5	-	-
20-29	2	13.3	90	15.0	5	4.2
30-39	4	26.7	220	36.7	25	20.8
40-49	5	33.3	155	25.8	42	35.0
50-59	2	13.3	70	11.7	33	27.50
60-69	1	6.7	62	10.3	10	8.3
>=70	1	6.7	-	-	5	4.2
Total	15	100	600	100	120	100

Source: Field Survey, January 2000.

From Table 3.1, it reveals that the respondents of age group (40-49) are maximum among terminal managers/authorities i.e. total of 33.3%. Also the maximum truck drivers are age group (30-39) and (40-49) are 36.7% and 25.8% respectively and 35% remains the maximum truck owners (40-49) of age group. From survey it is observed that young men are handling truck vehicles as truck drivers, terminal managers/authorities and truck owners.

### 3.2.2 EDUCATIONAL QUALIFICATIONS OF THE RESPONDENTS

Table 3.2 shows the educational qualification of the respondents.

Table 3.2: Educational qualifications of the respondents

Educational Qualification	Managers/Authorities of Terminal/Stand		Truck Drivers		Truck Owners	
	Number	%	Number	%	Number	%
Illiterate	-	-	72	12	9	7.5
Primary	2	13.3	322	53.7	45	37.5
Secondary	4	26.7	142	23.7	36	30.0
S.S.C	3	20.0	45	7.5	12	10.0
H.S.C	2	13.3	12	2.0	9	7.5
Graduate	2	13.3	-	-	3	2.5
Masters	1	6.7	-	-	2	1.7
Others	1	6.7	7	1.1	4	3.3
<b>Total</b>	<b>15</b>	<b>100</b>	<b>600</b>	<b>100</b>	<b>120</b>	<b>100</b>

Source: Field Survey, January 2000.

It is shown that 26.7% terminal managers/authorities are of secondary class and 20% are of S.S.C., 53.7% truck drivers are of primary classes and 23.7% are of secondary levels. Also 37.5% truck owners are of primary levels and 30% are of secondary levels and 1.7% are of masters level according to field survey.

### 3.2.3 OCCUPATIONS OF THE RESPONDENTS

Table 3.3 shows occupational distribution of the respondents.

Table 3.3: Occupations of the respondents

Occupation	Managers/Authorities of Terminal/Stand		Truck Drivers		Truck Owners	
	Numbers	%	Numbers	%	Numbers	%
Govt. Service	1	6.7	12	2.0	2	1.7
Private Service	3	20.0	320	53.3	40	33.3
Business	5	33.3	104	17.3	64	53.3
Self Employment	3	20.0	96	16.0	9	7.5
Retired service Holder	1	6.7	23	3.9	2	1.7
Others	2	13.3	45	7.5	3	2.5
<b>Total</b>	<b>15</b>	<b>100</b>	<b>600</b>	<b>100</b>	<b>120</b>	<b>100</b>

Source: Field Survey, January 2000.

The figures in Table 3.3 reveals that 33.3% terminal managers/authorities are businessmen, 53.3% truck drivers have private service, 53.3% truck owners are businessmen.

### 3.2.4 : OFFICIAL STATUS & PARKING PATTERN OF THE EXISTING TRUCK TERMINALS/STANDS.

Table 3.4 : Official status & parking pattern of the existing Truck Terminals/Stands.

Sl. No.	Truck Terminals/Stands	Official Status	Area (Hectares)	Inflow Trucks	Exit Flow Trucks	Total Idle Trucks	Total Trucks
1	Tejgaon Truck Terminal	Unauthorized	*	1057	1056	52	2165
2	Dayagonj Truck Depot	Authorized	0.50	235	227	13	475
3	Tongi Truck Stand	Unauthorized	0.50	401	397	22	820
4	Pagla Truck Terminal	Unauthorized	0.30	748	742	32	1522
5	Sardabad Truck Terminal	Unauthorized	-	298	294	12	604
6	Mohammadpur Truck Stand	Unauthorized	*	315	312	15	642
7	Ayazbazar Truck Terminal	Unauthorized	*	870	863	42	1775
8	English Road- Armentola	Unauthorized	*	373	368	14	755
9	Gubtali Truck Stand	Unauthorized	*	282	258	10	530
10	Dolakhal Truck Terminal	Unauthorized	*	333	328	11	672
11	Kemrajgonj Container Port	Unauthorized	**	260	256	9	525
12	Kamalapur Inland Container Port	Unauthorized	*	320	315	15	650
13	Wise-Ghar Truck Terminal	Unauthorized	*	370	367	18	755
14	Chandkila Pool Truck Stand	Unauthorized	*	275	273	12	560
15	Shuddhigongj Truck Stand	Unauthorized	*	375	371	16	762
	<b>Total</b>			<b>6492</b>	<b>6427</b>	<b>293</b>	<b>13212</b>

Source: Field Survey, January 2000.

- \* Indicates road space parking, \*\* Indicates proposed plan of DMDP for container port.

In Table 3.4, only Dayagonj Truck Depot is authorized and organized by DCC. The other terminals/stands are unauthorized and organized by local union i.e. Truck Malik Samiti and Bangladesh Inter-district Truck Drivers Union. The parking space as below: 0.50 hectare land in Dayagonj Truck Depot, 0.50 hectare land in Tongi Truck Stand, 0.30 hectare land in Pagla Truck Terminal and others Truck Terminals/Stands are both sides on the road space and parked parallel to the kerbside.



### 3.2.5 TYPES (MODELS) AND CAPACITY (IN TONS)

Table 3.5 : Types (Models) & Capacity (in Tons) of trucks

SL. No.	Name of the Truck Terminals/Stands	Models and Capacity of Trucks					Total
		Tata (7 Tons)	Hino/Hindustan /Bedford (6 Tons)	Hindustan/ Bedford (5 Tons)	Hindustan/ Bedford (3 Tons)	Others	
1	Tejgaon Truck Terminal	412	621	752	325	35	2165
2	Dayagonj Truck Depot	112	127	120	105	11	475
3	Tongi Truck Stand	165	222	272	89	72	820
4	Pugla Truck Terminal	524	455	459	55	25	1522
5	Saidabad Truck Terminal	272	175	102	42	13	604
6	Mohammadpur Truck Stand	285	145	120	54	38	642
7	Aminbazar Truck Terminal	575	638	320	147	95	1775
8	English Road- Armeruola	326	202	135	55	37	755
9	Gubuli Truck Stand	142	176	110	57	45	530
10	Dolakhali Truck Terminal	152	288	121	79	32	672
11	Keranigonj Container Port	128	155	153	37	52	525
12	Kamalpur Inland Container Port	243	122	107	12	166	650
13	Wise-Ghat Truck Terminal	108	214	350	56	27	755
14	Chandkha Pool Truck Stand	126	186	159	67	22	560
15	Sheddhargonj Truck Stand	208	322	183	21	28	762
	<b>Total</b>	<b>3802</b>	<b>4048</b>	<b>3463</b>	<b>1201</b>	<b>698</b>	<b>13212</b>

Source : Field Survey, January 2000

From Table 3.5, mainly 4 types of models and carrying capacity of trucks are considered and mentioned in the above figures.

### 3.2.6 PARKING SPACE OF EXISTING TRUCK TERMINALS /STANDS

Table 3.6 : Comments of parking space of existing Truck Terminals /Stands by Managers/Authorities

Ans.	Terminal Managers/Authorities	%
Sufficient	1	6.7
Insufficient	14	93.3
<b>Total</b>	<b>15</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.6, 93.3% respondents said that there are no existing parking space and 6.7% said that parking spaces are is sufficient.

### 3.2.7 EXISTING LAND SITUATION FOR TRUCK TERMINALS/ STANDS

Table 3.7 : Existing land situation for Truck Terminals/ Stands

Ans.	Terminals Managers/Authorities	%
Land Available	9	60
Land not Available	6	40
<b>Total</b>	<b>15</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.7, the 60% terminal managers/authorities considered that land is available for truck terminals/stands and 40% thought that there is no existing land for terminals/stands.

### 3.2.8 AMOUNT & OWNERSHIP OF LAND FOR TRUCK TERMINALS/ STANDS

Table 3.8 : Amount and ownership of land for Truck Terminals/Stands

Sl. No.	Name of the Truck Terminals/Stands	Existing Amount of Land (Yr. 2000) (Hectares)	Ownership of Land		
			DCC	Government	Private
1	Tejgaon Truck Terminal	6.08		√	
2	Dayagonj Truck Depot	1.25	√		
3	Tongi Truck Stand	2.55		√	
4	Pagla Truck Terminal	2.85		√	
5	Saidabad Truck Terminal	1.60			√
6	Mohammadpur Truck Stand	1.87		√	
7	Arminhazar Truck Terminal	4.70		√	
8	English Road- Armeenulab	2.60			√
9	Gubuli Truck Stand	1.77	√		
10	Dolakhil Truck Terminal	1.70			√
11	Keranigonj Container Port	1.37			√
12	Kanailapur Island Container Port	1.56			√
13	Wise-Ghaat Truck Terminal	2.24			√
14	Chandkha Pool Truck Stand	1.82			√
15	Shiddhargonj Truck Stand	2.24			√
	Total	36.20			

Source : Field Survey, January 2000

From Table 3.8, out of 15 terminals/stands where only two sites of land owned by DCC, five sites of land owned by the government and 8 sites of land owned by private ownership.

### 3.2.9 EXISTING TRUCK DRIVING TIME IN DHAKA CITY

Table 3.9 : Existing truck driving time in Dhaka city

Ans.	Terminal Managers/Authorities	%
Yes	8	53.3
No	6	46.7
Total	14	100

Source : Field Survey, January 2000

The existing truck driving time in Dhaka city, where 53.3% truck drivers answered positive (yes) and 46.7% answered negative (no).

### 3.2.10 EXISTING FACILITIES OF TRUCK TERMINALS/STANDS

Table 3.10 : Existing facilities of Truck Terminals/Stands

Ans.	Terminal Managers / Authorities	%
Yes	1	6.7
No	15	93.3
Total	15	100

Source : Field Survey, January 2000

From Table 3.10, the existing facilities of 15 truck terminals/stands where 6.7% answered positive (yes) and 93.3% answer negative (no).

### 3.2.11 MONTHLY INCOME, EXPENDITURE & SAVINGS OF TRUCK DRIVERS

According to field survey Table 3.11 shows that the economic condition of truck drivers are not satisfactory. Their average monthly salary is Tk. 1315.67 and average commission per month is Tk. 8795.00, i.e. their average total monthly income is Tk. 10110.67 and average monthly expenditure is Tk. 9925.42. So it is very difficult to maintain their family with such a poor income. But they also drive these trucks taking their only occupation. In survey the average savings of a truck driver is Tk. 1.83% or, nil.

Table 3.11 : Monthly Income, Expenditure & Savings of Truck Drivers (in Taka)

Truck Drivers		Salary (1 Driver)	Commission (1 Driver)	Total Income (1 Driver)	Expenditure (1 Driver)	Savings (1 Driver)	
Age Group	Numbers	a	b	i = a+b	e	s = i-e	%
>= 18	33	900	5000	5900	5900	-	-
20-29	90	1000	8000	9000	8900	100	1.11
30-39	220	1200	9000	10200	10000	200	1.96
40-49	155	1300	10000	11300	11000	300	2.65
50-59	70	1500	7000	8500	8400	100	1.18
60-69	62	1600	6000	7600	7525	75	0.97
>=70	-	-	-	-	-	-	-
Total Average		1315.67	8795	10110.67	9925.42	185.25	1.83

Source: Field Survey, January 2000

### 3.2.12 ATTITUDE TOWARDS TRUCK DRIVING AS A PROFESSION

Table 3.12 : Attitude towards truck driving as a profession

Ans.	Truck Drivers	%
Yes	168	28
No	432	72
<b>Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.12, 72% truck drivers dislike their profession and 28% like their profession.

### 3.2.13 REASONS OF TAKING THE PROFESSION CHOOSE

Table 3.13 : Reasons of taking the profession choose

Ans.	Reasons	Truck Drivers	%
Yes	1. Good Salary	-	-
	2. Driving Satisfaction	125	20.9
	3. Traveling the whole of Bangladesh	35	5.9
	4. Honour of the Profession	-	-
	5. Others	8	1.3
		<b>Sub Total</b>	<b>168</b>
No	1. Police Sergeant Misuses the Traffic Rules	225	37.5
	2. Low Salary	128	21.3
	3. Health Hazard	17	2.8
	4. Traffic Accident	15	2.5
	5. Low Social Status	30	5.0
	6. Others	17	2.8
		<b>Sub Total</b>	<b>432</b>
	<b>Grand Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.13, 28% truck drivers like their profession for different reasons and 72% dislike their profession for different causes.

### 3.2.14 EXISTING LOADING AND UNLOADING CENTRES

Table 3.14 : Existing loading and unloading centres

Sl. No	Name of the Loading and Unloading Centres	Truck Drivers	
		Number	%
1	Industries	95	15.8
2	Govt. / Private Warehouse	130	21.7
3	Wholesale Market	145	24.2
4	Katcha Market	81	13.5
5	Building Materials Selling Centres	30	5.0
6	On Road Side	86	14.3
7	Others	33	5.5
	<b>Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

During the survey Table 3.14, the maximum 24.2% loading and unloading centres are situated in wholesale markets and 21.7% in government/private ware house.

### 3.2.15 MATERIALS CARRIED BY TRUCKS

Table 3.15 : Materials carried by trucks

Sl. No	Name of the Materials	Truck Drivers	
		Number	%
1	Building Materials	65	10.8
2	Food Stuff	142	23.7
3	Earth / Sand / Gravels	120	20.0
4	Wood	25	4.2
5	Garments Goods	130	21.6
6	Container	42	7.0
7	Agricultural Raw Materials	30	5.0
8	Solid Waste (Household / Industrial)	15	2.5
9	Others	31	5.2
	<b>Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

In the survey the truck drivers stated that the different materials carried by trucks are 23.7% food stuff, 21.6% garments goods, 20% earth/sand/gravel, 10.8% building materials etc.

### 3.2.16 ROADS USED BY TRUCKS

Table 3.16 : Roads used by trucks

Ans.	Truck Drivers	%
Primary Roads	435	72.5
Secondary Roads	120	20.0
Other Roads	45	7.5
<b>Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.16, 72.5% truck drivers answered they drive on the primary roads, 20% on secondary roads and 7.5% drive in the other roads in Dhaka city.

### 3.2.17 ROADS USED BY INTER DISTRICT TRUCKS

Table 3.17 : Roads used by inter-district trucks

Ans.	Truck Drivers	%
Primary Roads	320	53.7
Secondary Roads	220	36.7
Other Roads	60	10.0
<b>Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

In Table 3.17, 53.3% truck drivers drive on all the primary roads, 36.7% drive on secondary roads and 10% drive on the other inter-district roads in Bangladesh.

### 3.2.18 NUMBERS OF HOURS OF TRUCK OPERATION PER DAY

Table 3.18 : Number of hours of truck operation per day

Hours	Truck Drivers	%
1-4	98	16.3
5-8	207	34.5
9-12	112	18.7
13-16	92	15.3
17-20	56	9.3
21-24	35	5.9
Total	600	100

Source : Field Survey, January 2000

From Table 3.18, 34.5% truck drivers drive (5-8) hours and 5.9% drive (21-24) hours daily respectively.

### 3.2.19 CONSIGNMENT OF TRUCKS

Table 3.19 : Consignment of trucks is increasing day by day

Ans.	Truck Drivers	%
Yes	525	87.5
No	75	12.5
Total	600	100

Source : Field Survey, January 2000

From Table 3.19, 87.5% truck drivers answered positive and 12.5% drivers answered negative.

### 3.2.20 PROBLEMS OF TRUCK MOVEMENT IN DHAKA CITY

Table 3.20 : Problems of truck movement in Dhaka city

Ans.	Reasons	Truck Drivers	%
Yes		310	51.7
No	1. Mixed movement of motorized and Non-motorized vehicles	105	17.5
	2. Lack of identified truck routes	86	14.3
	3. Weak enforcement of traffic rules	38	6.3
	4. Anywhere the pedestrian crosses the road	54	9.0
	5. Others	7	1.2
	Sub Total	290	48.3
	Grand Total	600	100

Source : Field Survey, January 2000

In survey, from Table 3.20, 51.7% truck drivers answered positive and 48.3% answered negative for truck movement in Dhaka city.

### 3.2.21 ROAD ACCIDENTS BY TRUCK DRIVERS AND THEIR REASONS

Table 3.21 : Responsible for road accidents by Truck Drivers and their reasons.

Ans.	Reasons	Truck Drivers	%
Yes	1 Lack of sufficient training institute for truck drivers.	13	2.2
	2 Problems of traffic Management	8	1.3
	3 Mixed movement of motorized and non-motorized vehicles	24	4.0
	4. Lack of identified truck routes	12	2.0
	5 Weak enforcement of traffic rules	6	1.0
	6 Crossing road by pedestrian	7	1.2
	7 Others	4	0.7
		74	12.4
No	1. Lack of knowledge of traffic rules	215	35.8
	2. Roads surface are not suitable for truck movement	85	14.2
	3 Roads are not wide enough for truck movement.	96	16.0
	4. Crossing the road by pedestrian	72	12.0
	5. Others	58	9.6
	Sub Total	526	87.6
	Grand Total	600	100

Source : Field Survey, January 2000

From Table 3.21, only 12.40% truck drivers said that trucks are responsible for accidents in different ways and 87.6% said that trucks are not responsible for accidents.

### 3.2.22 SUGGESTIONS TO ELIMINATE TRUCK ACCIDENTS

Table 3.22 : Some suggestions to eliminate accidents by Truck Drivers.

Suggestions	Truck Drivers	%
1 Establishment of Training Institutes for truck drivers.	166	27.7
2 Obedience of the traffic rules by drivers of all vehicles	120	20.0
3. Identifying roads for motorized and non-motorized segregation	152	25.3
4 Regular checking of all vehicles fitness before start.	126	21.0
5 Awareness development of road crossing to the pedestrian	30	5.0
6. Others	6	1.0
Total	600	100

Source : Field Survey, January 2000

From Table 3.22, 27.7% truck drivers said that establishment of training institutes is necessary for truck drivers and 25.3% said that the identifying roads are necessary for motorized and non-motorized segregation, 21% said that the regular checking of all vehicles fitness are necessary before start.

### 3.2.23 ACCIDENTS DUE TO RECKLESS TRUCK DRIVING

Table 3.23 : Reckless driving of trucks is responsible for road accidents.

Ans.	Truck Drivers	%
Yes	572	95.3
No	28	4.7
Total	600	100

Source : Field Survey, January 2000

According to survey 95.3% accidents are responsible for reckless driving of trucks.

### 3.2.24 TRAFFIC CONGESTION GENERATED BY TRUCKS

Table 3.24 : Traffic congestion generated by trucks due to loading & unloading on the road.

Ans.	Truck Drivers	%
Yes	330	55
No	270	45
Total	600	100

Source : Field Survey, January 2000

From Table 3.24, 55% truck drivers said that the traffic congestion generated by trucks due to loading and unloading on the road is carried out and 45% answered negative.

### 3.2.25 CAUSES OF TRAFFIC CONGESTION

Table 3.25 : Main causes of traffic congestion.

Ans.	Reasons	Ans.	Truck Drivers	%
Yes	Fixing on land truck loading and unloading time.	Yes	225	37.5
		No	105	17.50
			330	55
No	Lack of awareness and careless movement.	Yes	160	26.7
		No	110	18.3
		Sub Total	270	45
	Grand Total		600	100

Source : Field Survey, January 2000

From Table 3.25, 55% truck drivers said that the causes of traffic congestion fixing on land for truck loading and 45% said that there are no main causes of traffic congestion as lack of awareness and careless movement.



### 3.2.26 OPINION ABOUT ONE WEEK'S REST AFTER LONG DRIVE

Table 3.26 : Opinion about one week's rest after long way drive.

Ans.	Reasons	Truck Drivers	%
Yes		145	24.2
No	1. Getting immediate consignment	208	34.7
	2 To carry out orders of the truck owners	91	15.2
	3 Extra income	122	20.3
	4. Others	34	5.6
	<b>Sub Total</b>	<b>455</b>	<b>75.8</b>
	<b>Grand Total</b>	<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.26, only 24.2% truck drivers said that they want to take rest at least one week and 75.8% do not want to take rest at least one week for the reasons mention above.

### 3.2.27 PARKING CHARGE

Table 3.27 : Parking charge during per night or per hourly.

Ans.	Amount of charge	Truck Drivers	%
No Charge	-	475	79.2
Payable Charge	Tk. 20.00	125	20.8
<b>Total</b>		<b>600</b>	<b>100</b>

Source : Field Survey, January 2000

From Table 3.27, 79.2% truck drivers said that they can easily park trucks at night on the terminals/stands i.e. no charge is payable for parking and only 20.8% is payable for parking in different terminals/stands.

### 3.2.28 NO. OF TRUCK OWNERS' TRUCKS

Table 3.28 : The engagement of the Owners' trucks in their business.

Trucks	Truck Owners	%
1-5	39	32.5
6-10	32	26.7
11-15	21	17.5
16-20	13	10.8
21-25	4	3.3
26-30	5	4.2
31-35	1	2.5
36-40	2	1.7
41-45	1	0.8
46-50	-	-
>50	-	-
<b>Total</b>	<b>120</b>	<b>100</b>

Source : Field Survey, January 2000

In Table 3.28, there are 32.5% of (1-5) trucks, 26.7% of (6-10) trucks, 17.5% of (11-15) trucks and so on mentioned in the table above.

### 3.2.29 MONTHLY INCOME, EXPENDITURE & SAVINGS OF TRUCK OWNERS (FOR ONE TRUCK)

Table 3.29 : Monthly income, expenditure & savings of Truck Owners (for one truck).

Sl. No.	Truck Owners	Income (Thousand)	Expenditure (Thousand)	Total Saving (Thousand)	Average Savings (Thousand)	Average Savings (%)
1	38	7650	7570	80	10	5
2	26	5120	4890	230		
3	12	2510	2440	70		
4	24	5050	4750	300		
5	20	3670	3150	520		
Total	120	24000	22800	1200		

Source : Field Survey, January 2000

In survey the average monthly savings of one truck owner is Tk. 10 thousand for one truck, where as the average savings is 5% out of total income.

### 3.2.30 TRUCK OWNERS PLAN TO ADD MORE TRUCKS IN THEIR FLEET IN THE NEAR FUTURE

Table 3.30 : Truck Owners plan to add more trucks in their fleet in the near future.

Ans.	Truck Owners	%
Yes	95	79.2
No	25	20.8
Total	120	100

Source : Field Survey, January 2000

From Table 3.30, 79.2% truck owners want to increase trucks in their fleet in near future and 20.8% do not want to add truck in their fleet.

### 3.2.31 COMMENTS OF TERMINAL MANAGERS/AUTHORITIES, TRUCK OWNERS AND DRIVERS

Table 3.31 : Comments of Terminal Managers/Authorities, Truck Owners and Truck Drivers proposal to establish Truck Terminals/Stands in greater Dhaka.

Ans.	Managers/Authorities of Terminal/Stand		Truck Drivers		Truck Owners	
	Number	%	Number	%	Number	%
Yes	15	100	600	100	120	100
No	-	-	-	-	-	-
Total	15	100	600	100	120	100

Source: Field Survey, January 2000.

From Table 3.31, 100% respondents proposed to establish and give official status for truck terminals/stands in greater Dhaka.

### **3.3 ANALYSIS OF TRUCK TERMINALS/STANDS BY THE RESPONDENTS OPINION**

In my present research work 15 large and famous truck terminals/stands are surveyed in greater Dhaka. (Table 3.4). Of these, only Dayagonj Truck Depot is authorized and organized by Dhaka City Corporation (DCC). The other truck terminals/stands are unauthorized and organized by Bangladesh Inter-district Truck Drivers Union (BITDU) and Bangladesh Truck Malik Samiti (BTMS) etc. Therefore, a brief description and their activities and other functions of these terminals/stands are as follows:

#### **3.3.1 TEJGAON TRUCK TERMINAL**

It is the biggest Truck Terminal in greater Dhaka (Plate C-3.1). The General Secretary Mr. Rustom Ali Khan of Tejgaon Truck Malik Samity said that this terminal was established during the 2<sup>nd</sup> World War. Heavy machinery goods like arms of the war are carried by railway in this rail station. Also, food items for the CSD godowns are carried by rail. Later, all types of goods are carried by trucks. At that time, the truck terminal was created at Tejgaon (The Daily Prothom Alo, 1999). Mr. Md. Salaw Howaldar, Chairman of Bangladesh Inter-district Truck Driver Union, Tejgaon branch explains that all kinds of trucks and truck vans 2165 (approx.) are daily parking to use this terminal and on both sides of surrounding roads. As a result any other vehicles cannot move in these areas, like Holy Cross School and College, Tejgaon College, Tejgaon Science College, Government Polytechnic Institutes, Boys' School and Girls' School and the students can't reach their institutions on time. So, the traffic jam always remains in these areas. Mr. Howaldar states that 10 hectares of land is available on the West-North side of the rail line at the existing Tejgaon Truck Terminal. The owner of this land is Bangladesh Railway. It is a good location for a Truck Terminal at that land and its parking capacity will be 2172 (approx.) trucks. Here this terminal is used by a large number of trucks, carrying mainly foods, garments products, industrial products, consumable goods etc.

### 3.3.2 DAYAGONJ TRUCK DEPOT

This is the only authorized and organized Truck Depot (Plate C-3.2), well administered by Dhaka city Corporation (DCC). Also, Bangladesh Inter-district Truck Drivers Union and Truck Malik Samiti, Dayagonj branch is involved with DCC. Mr. Sarwar Hossain, Manager of Dayagonj Truck Depot, DCC, reports that the area of the depot is 0.50 hectare (approx.) and daily 475 (approx.) trucks are parking to use this depot and DCC collects parking charge (fee) Tk. 20.00 per truck. On the other hand, Mr. Kazi Makfor Uddin, Ex-Secretary of Bangladesh Inter-district Truck Drivers Union, Dayagonj branch, states that about 511 (approx.) trucks are daily parking to use this depot inside and outside both sides of roads. He also explains that there are no facilities in this depot by DCC. Mr. Uddin has also proposed to DCC to shift the location to Jathrabarri or near Kanchpur bridge. In this proposal, Mr. Hossain states that the authority of DCC through this depot needs to be transferred to the suitable place near Jathrabarri or Kanchpur bridge.

### 3.3.3 TONGI TRUCK STAND

This stand is important for the Northern part of greater Dhaka (Plate C-3.3). It is an unauthorized truck stand. It is organized by Bangladesh Inter-district Truck Drivers Union and Truck Malik Samity, Tongi branch. Mr. Shahabuddin, Chairman of Truck Drivers Union states that about 820 (approx.) trucks carrying building materials, steel, earth and raw materials of industries etc. daily park in this stand and parking happens on both sides of the road, industrial areas and gates. Mr. Shahabuddin explains that about 9 hectares middle low land is available on the south ¼ km. far at the existing truck stand nearby road side and on the first front Bishaw Istama field. Mr. Shahabuddin also states that the government is the owner of this land and he proposes to construct the future truck stand on this land. When it would be an authorized and organized truck stand, its parking capacity will be about 4548 (approx.) trucks.

### 3.3.4 PAGLA TRUCK TERMINAL

This terminal stands beside the Buriganga river (Plate C-3.4) and its area is 0.30 hectare (approx). This terminal is used mainly for loading-unloading building materials like bricks, gravel, sand, cement, steel, rod etc. It is unauthorized and organized by Bangladesh Inter-district Truck Drivers Union and Truck malik Samiti, Pagla branch. Mr. Abdul Karim, Secretary of Truck Drivers Union explain that about 1522 (approx) trucks daily park on the terminal and parking happens on both sides of road space. As a result, the traffic jam is unimaginable. Mr. Karim states that for future expansion of this terminal, there is a government pond of 10 (approx) hectares on the North-East of this existing truck terminal and there is a proposal submitted to the government authority to build a new truck terminal by filling up this pond. It would be a suitable terminal. Then its parking capacity will be 1789 (approx) trucks.

### 3.3.5 SAIDABAD TRUCK TERMINAL

It is an unauthorized Truck Terminal (Plate C-3.5) and its stand on road space. This terminal is organized by Bangladesh Inter-district Truck Drivers Union, Saidabad branch. Mr. Md. Rafiqul Islam, Vice-Chairman of this terminal explains that daily about 604 (approx) trucks are parking in this terminal and parking on both sides of road space. This terminal is mainly used in carrying sand, bricks, gravel, food etc. It is situated on the road-side as many trucks inflow and exist flow, so the traffic congestion is unimaginable. Mr. Islam also states that for future expansion of this terminal, a suitable low land of 5 hectares (approx) is available at the existing terminal on the west and road side and this land is owned by private owners. They have agreed to construct a new truck terminal. Mr. Islam also explains that if it is made a new truck terminal, then its parking capacity will be almost 1000 (approx.) trucks.

### 3.3.6 MOHAMMADPUR TRUCK STAND

This stand is unauthorized (Plate C-3.6) and organized by Bangladesh Inter-district Truck Drivers Union and Truck Malik Samiti, Mohammadpur branch. The stand mainly uses both sides of Satmasjid road and Bosila road and other roads. Mr. Mostafa Kamal, Chairman of the Truck Drivers Union at this stand has said that

about 642 (approx.) trucks daily park at this stand on both sides of roads, carrying mainly bricks, soil, cement, industrial products etc. Mr. Kamal states that 5 hectares (approx.) government low land is reserved at Bosila on the flood protection barrage on the stand at Mohammadpur. Mr. Kamal also informs that in 1997-98 only ¼ the earth has been filled for this new stand. But now it is a sale center of bricks, stones, sand etc. At present the Shahid Buddigibi Smrity Showadow stands at 2 km. far south. Mr. Kamal also states that some local people did not want to build a new truck stand on the filled land for their personal interest. However this location is the best suitable place for a truck stand of this area. If a new truck stand is established, it's parking capacity would be about 1543 (approx.) trucks.

### **3.3.7 AMINBAZAR TRUCK TERMINAL**

This is the biggest Truck Terminal (Plate C-3.7) for the North side of Bangladesh. At present, it is organized by Bangladesh Inter-district Truck Driver Union and Bangladesh Truck Malik Samiti Union, Aminbazar branch. Mr. Md. Solaman, Chairman of the Truck Driver Union at this terminal has said that about 1775 (approx.) trucks daily use this terminal for parking and parking happens on both sides of road space. When all the trucks are parked of the both sides of road, the road creates unimaginable traffic congestion. So, realizing the practical situation the DCC allotted 6 hectares low land for constructing a new truck terminal. Mr. Solaiman also states that after the completion of this terminal, its parking capacity would be about 5468 (approx.) trucks.

### **3.3.8. ENGLISH ROAD-ARMENTITOLA**

These Truck Stands (Plate C-3.8 & Plate C-3.9) are unauthorized and trucks are parking on the both sides of road space. Many wholesalers are located in this area and mainly steel, tin, rod, etc. are carried by trucks. These stands are organized by Bangladesh Inter-district Truck Driver Union and Bangladesh Truck Malik Samiti, English road-Armenitola branch. Mr. Zainal Abddin, Chairman of this Truck Drivers Union at English road, has said that there are about 755 (approx.) trucks parking daily on the both sides of roads space and loading-unloading different

types of heavy goods like steel, tin, rod, etc. As a result, the traffic congestion is unimaginable. There is no suitable land where a new truck stand or terminal can be constructed in English road-Armanitola. Mr. Abddin also suggests that only after the opening of the second Buriganga bridge, a truck stand/terminal must be constructed to the south side of this river.

### **3.3.9 GUBTALI TRUCK STAND**

It is unauthorized (Plate C-3.10) and covers only on road space. It is organized by Bangladesh Inter-district Truck Drivers Union at Gubtali Branch. Mr. Harun-Or-Rashid, Secretary of Truck Drivers Union at this Gubtali truck stand has said that about 530 (approx.) trucks are parking at this stand and on both sides of road space. Mr. Rashid also explains that 5 hectares low land of the govt. is available to the south road-side of the existing stand. If this land is used for a new truck stand, then its parking capacity will be about equal to 1,124 (approx.) trucks.

### **3.3.10 DOLAIKHAL TRUCK TERMINAL**

This stand is unauthorized (Plate C-3.11) and it is located on Lalmohan Shaha Street (in Dolaikhal). Trucks are parked on roads closing one carriage way of the road. There is no scope of its expansion. The truck parking may be shifted and the existing space may be used for car parking. This terminal is organized by Bangladesh Inter-district Truck Drivers Union, Dolaikhal branch. Mr. Mintu Miha, Secretary of Truck Drivers Union has said that about 672 (approx.) trucks daily park at this terminal and parking happens on both sides of the road, shops etc. Those trucks carry building materials, raw materials of industries, goods, foods etc.

### **3.3.11 KERANIGONJ CONTAINER PORT**

Although the location of the container port at Keranigonj is contradictory to the Structure Plan of DMDP, the government has decided to locate the container port on the southern side of the building a river at Keranigonj. Mr. Abdul Karim, Secretary of Truck Drivers Union has said that about 525 (approx.) trucks carrying raw materials of industries, steel and other goods etc. daily park on road sides of this port.

### **3.3.12 KAMLAPUR INLAND CONTAINER PORT**

This stand (Plate C-3.12) is on Atis Dipankor road (Saidabad road). It was the property of Bangladesh Railway and the whole area has been taken over for the container port. There is no scope for locating a public truck stand in this area. This port is fully organized by the authority of Bangladesh Railway. Mr. Abu Taher, Chairman of Truck Drivers Union has said that about 650 (approx.) trucks daily park road sides, port, carrying supply of industrial materials, steel, stone etc.

### **3.3.13 WISE-GHAT TRUCK TERMINAL**

Trucks are parked on the river-side road almost blocking the road in this wholesale fruit and rice trading center (Plate C-3.13). There is no scope-for location of a truck park in this area. It is authorized and organized by Bangladesh Inter-district Truck Drivers Union. Mr. Shakwat, Secretary of Truck Drivers Union has said, about 755 (approx.) trucks daily park at this terminal and on both sides of the road of wholesale shops, carrying fruit, rice, building materials (cement) etc. There is no scope at all for a truck terminal/stand at Wise-Ghat.

### **3.3.14 CHANDKHA POOL TRUCK STAND**

This is a very small truck park/stand (Plate C-3.14). Trucks are also parked on the kerb side of Fulbaria road. It is authorized and organized by Bangladesh Inter-district Truck Drivers Union, Chandkha pool branch. Mr. Wohab, Secretary of Truck Drivers Union has said that about 560 (approx.) trucks daily park at this stand on both sides of the road from Fulbaria to Polashi bazar, carrying raw materials of small industries, consumable goods for Moulabi bazar etc. There is no scope for locating a larger truck park/stand in this area.

### **3.3.15 SHIDHIRGONJ TRUCK STAND**

This stand (Plate C-3.15) is important for the supply of building materials like stone, sand in greater Dhaka. It is unauthorized and stands on the bank of the river from Kanchpur bridge to Mukti Sharani. This stand is organized by Bangladesh Inter-district Truck Drivers Union and Truck Malik Samity, Shidhirgonj branch. Mr. Abul Hossain, Chairman of Truck Drivers Union has said that about 762 (approx.) trucks daily park at this stand on both sides of roads and industrial areas



and gates, carrying building materials like stone, sand, brick etc. Mr. Kalam said that there is no land where a permanent truck stand can be built.

### **3.4 OPINIONS ON PROSPECTIVE ROLE OF TERMINALS/STANDS**

The managers/authorities of the existing truck terminals/stands and the owners of trucks strongly expressed the same opinion that they do not want parking the existing truck terminals/stands. They want a new suitable truck terminal/stand, where their trucks can be parked. Also they express their opinion that when a truck is fallen in a traffic jam time and fuel are lost and drivers' energy is lost. So, it is a great loss of their truck business. The other important opinion is: when the government wants to construct a new terminal the owners of the trucks will take the lease of the stand at a certain amount of money. So a suitable plan and policy will be needed for truck terminal/stand by the government or corporation or any authority.

### **3.5 SUMMARY OF THE FINDINGS**

Among a large number of truck terminals/stands/depots only Dayagonj Truck Depot is authorized and other 20 (approx.) truck terminals/stands/depots are unauthorized in greater Dhaka. It was found from this survey as follows : the maximum respondents of terminal managers/authorities of age group (40-49) are 33.3%, truck drivers age group (30-39) 26.7% and truck owners age group (40-49) 35% (Table 3.1). According to survey the maximum educational qualification levels of the managers/authorities are 26.7% of secondary, truck drivers 53.7% of primary and truck owners 37.5% of primary level (Table 3.2). The maximum occupations of the respondent level of managers/authorities are 33.3% of business, truck drivers 53.3% in private-service and truck owners 53.3% in business (Table 3.3). From survey of 15 truck terminals/stands, where only Dayagonj Truck Depot is authorized and controlled by DCC and other terminals/stands are unauthorized and all trucks parked on both sides of the road space and parallel to the kerbside. The existing daily parking pattern as : 2165 trucks at Tejgaon Truck Terminal, 475 trucks at Dayagonj Truck Depot, 820 trucks at Tongi Truck Stand, 1522 trucks at Pagla Truck Terminal, 604 trucks at Saidabad Truck Terminal, 642 trucks at Mohammadpur Truck Stand, 1775 trucks at Aminbazar Truck Terminal, 755 trucks

at English Road-Armenitolla, 530 trucks at Gubtali Truck Stand, 672 trucks at Doaikhal Truck Terminal, 525 trucks at Keranigonj Container Port, 650 trucks at Kamalapur Inland Container port, 755 trucks at Wise-Ghat Truck Terminal, 560 trucks at Chandkha Pool Truck Stand, 762 trucks at Shiddhirgonj Truck Stand (Table 3.4). The survey shows that 3802 truck are belong to Tata (7 Tons), 4048 trucks Hino/Hindustan/Bedford (6Tons), 3463 trucks Hindustan/Bedford (5 Tons), 1201 trucks Hindustan/Bedford (3 Tons) respectively and 698 trucks with other models and capacities (Table 3.5). From survey, 93.3% respondents said that no existing parking space (Table 3.6). 60% terminal managers/authorities considered that land is available for truck terminals/stands (Table 3.7). There are lands available for the new construction of truck terminals/stands under DCC at Dayagonj and Gubtali, under the government Tejgaon, Tongi, Pagla, Mohammadpur and Aminbazar and other truck terminals/stands are available private ownership (Table 3.8). The existing truck driving time, where 53.3% truck drivers answered positive and 46.7% answered negative (Table 3.9). 93.3% truck drivers said that no facilities of existing terminals/stands are available (Table 3.10). From survey the average saving of a truck driver is Tk. 1.83% (Table 3.11). 72% truck drivers answered negative for taking their profession and 28% answered positive for different reasons (Table 3.12 and Table 3.13). According to survey the existing loading and unloading centres of 15.8% are in industries, 21.7% govt./private warehouse, 24.2% wholesale market, 13.5% katcha market, 5% selling centres of building materials, 14.3% on road side and 5.5% on other sites (Table 3.14). In the survey it is mentioned the different goods are carried by trucks 10.8% building materials, 23.7% food stuff, 20% earth/sand/gravels, 4.2% wood, 21.6% garments goods, 7% container, 5% agricultural raw materials, 2.5% solid waste and 5.2% others (Table 3.15). From survey, 72.5% trucks move on all the primary roads, 20% trucks move on secondary roads and 7.5% move on other roads in Dhaka city (Table 3.16). Also 53.3% trucks move on primary roads, 36.7% trucks move on secondary roads and 10% trucks move other inter-district roads in Bangladesh (Table 3.17). A truck driver drives daily (24 hrs.) as: 16.3% in (1-4) hrs. , 34.5% in (5-8) hrs. , 18.7% in (9-12) hrs., 15.3% in (13-16) hrs., 9.3% in (17-

20) hrs., 5.9% in (21-24) hrs. (Table 3.18). Consignment of trucks are increasing day by day as : 87.5% drivers answered positive and 12.5% answered negative (Table 3.19). From survey, 51.7% truck drivers said truck movement in Dhaka city is suitable and 48.3% answered negative (Table 3.20). In survey, 12.4% truck drivers answered positive and 87.6% answered negative of responsible for road accidents by truck drivers and their reasons (Table 3.21). To remove accidents, 27.7% truck drivers said that to establish training institute for truck drivers is essential,, 20% said that it is essential to obey the traffic rules by drivers of all vehicles, 25.3% said that to identify roads for motorized and non-motorized segregation, 21% said that to regular checking of all vehicles fitness is necessary before start, 5% said that awareness development of road crossing is need to the pedestrian, 1% said others (Table 3.22). From survey 95.3% truck drivers said that reckless driving of trucks is responsible for road accident and 4.7% answered negative (Table 3.23). 55% truck drivers said that the traffic congestion generated by trucks where loading and unloading on road and 45% answered negative (Table 3.24). In survey, 55% truck drivers said that the main causes of traffic congestion are fixing on land for truck loading and unloading and 45% said that lack of awareness and careless movement (Table 3.25). 24.2% truck drivers said that they should take rest at least one week after a long driving truck and 75.8% said that they should not take rest for different reasons (Table 3.26). 79.2% truck drivers said that there is no process to give night time parking charge for truck parking and 20.8% said that they should pay parking charge of Tk. 20.00 only (Table 3.27). From survey, 32.5% truck owners have (1-5) trucks entering into their business and similarly 26.7% (6-10) trucks, 17.5% (11-15) trucks, 10.8% (16-20) trucks, 3.3% (21-25) trucks, 4.2% (26-30) trucks, 2.5% (31-35) trucks, 1.7% (36-40) trucks and 0.8% (41-45) trucks (Table 3.28). The truck owners said that the average monthly saving of Tk. 10 thousand and average saving is equal to total income of 5% (Table 3.29). From survey, 79.2% truck owner said that they add trucks in their fleet in near future and 20.8% answered negative (Table 3.30). In conclusion (Table 3.31), 100% respondents proposed to formulize and give official status for truck terminals/stands in greater Dhaka.

## CHAPTER 4

### TRUCK MOVEMENT ROADS, LOADING-UNLOADING CENTRES AND FUTURE ESTABLISHMENT FOR TRUCK TERMINALS/STANDS

#### 4.1 ROAD CLASSIFICATION

From the DITS study put forward four main categories of roads in Dhaka as follows:

##### 4.1.1 Primary Roads:

Roads of major regional or metropolitan significance catering for relatively high traffic volumes and/or long distance travel. There are 200 kilometers of primary roads in Dhaka city.

##### 4.1.2 Secondary Roads:

Roads of less importance than a primary road but still catering for relatively high volumes of traffic or long distance traffic and on which thorough traffic predominates. There are 110 kilometers of secondary roads in the city.

##### 4.1.3 Connector Roads:

Roads that connect the local road system to the primary and secondary roads and which serve both local and thorough traffic. There are 150 kilometers of connector roads in Dhaka.

##### 4.1.4 Local Roads:

Roads serving predominantly local and short distance traffic. There are 3,000 kilometers of local roads in Dhaka.

#### 4.2 ROADS CLASSIFICATION BY DUTP-I

DUTP-I generally agreed with the basic DITS road classification. However, a small number of changes were made and the classification updated to include new roads constructed since the completion of the DITS project. The main links constructed following the DITS study were:

- \*Chittagong Road to Narayanganj,
- \*Green Road to Mirpur Road,
- \*Badiuzzaman Road (Kachukhet to Chairman Bari) &
- \*Second Buriganga Bridge at Badamtoli.

The proposed DUTP-I road classification and includes the following road reclassifications to secondary links:

- \*Topkhana Road
- \*Elephant Road
- \*Hare Road
- \*Bangladesh Bank Road

### **4.3 ROAD DISTRIBUTION OF MOVEMENT TRUCKS**

The following are two categories movement of trucks (Figure B-4.1) such as Primary Roads and Secondary Roads.

#### **4.3.1 PRIMARY ROADS:**

As per the classification of roads of DITS and DUTP-I, only the primary and secondary roads and main connector roads are truck able. The Inter-district/ Regional trucks follow the primary roads. The primary roads are:

- \* Mukti Sarani
- \* Narayangonj Road
- \* Mawa Road
- \* Atish Dipanker-Rampura Road (Bishaw Road)
- \* Airport Road-Mymensingh Road
- \* Mirpur Road and (future proposals are for)
- \* Eastern By-pass
- \* Western By-pass

**4.3.1.1 Mukti Sarani :** It starts from the Saidabad intersection partly called Dayagonj Road and up to Sitalakshya bridge passing through Jatrabari intersection. Heavy east bound vehicles use this road.

#### **4.3.1.2 Narayangonj Road**

It starts from the Jatrabari intersection connecting the approach road of Buriganga bridge-1, passing through the building materials trading centers of Shampur and Fatulla to Narayangonj. It is the main heavy vehicle arterial road between Dhaka and Narayangonj.

#### **4.3.1.3 Mawa Road**

From Buriganga bridge-I, it runs up to Mawa ferry ghat. Heavy south-bound vehicles pass along this road.

#### **4.3.1.4 Atish Dipankar Road**

Rampura road-starting from Saidabad intersection it skirts the eastern edge of the built up area of the city and joins the Dhaka-Mymensingh road at Joar Shahara. North bound heavy vehicles from Dhaka and from the eastern districts, specially from Chittagong pass along this road without entering the city center. At present this road is performing the function of a By-pass road.

#### **4.3.1.5 Airport Road-Mymensingh Road**

Heavy north bound vehicles from the city center and vice versa pass along this road, Non-motorized vehicles are not allowed on this road. Heavy vehicles are also not allowed on this road. Heavy vehicles from Mohakhali and from the Tejgaon industrial area having no other suitable alternative route pass along this road.

#### **4.3.1.6 Mirpur Road**

All west bound vehicles pass along this road for Aricha ferry ghat. At present the road is heavily trafficked. After the opening of the Bangabandhu/Jamuna bridge movement of heavy traffic may partially be shifted from Mirpur road to the Dhaka-Mymensingh road.

#### **4.3.1.7 Eastern By-pass**

It is expected that in the near future the proposed Eastern By-pass will be operational. Heavy vehicles traveling from the eastern districts to the northern districts and vice versa will not need to enter the city and will use the Eastern By-pass.

#### **4.3.1.8 Western By-pass**

The DMDP Urban Area Plan on transportation, proposes the possibility of a Western By-pass along the Buriganga river bank on the flood protection embankment. If implemented, heavy vehicles west and north bound will use this as a By-pass road (Source: DUTP-II, 1996).

### 4.3.2 SECONDARY ROADS

The secondary roads are less important for traffic movement but still cater for relatively high volumes of long distance traffic, of which thorough-traffic predominates. The secondary roads identified by DITS and confirmed by DUTP-1 are as follows.

#### 4.3.2.1 Hari Chandra Ray Road- S.K. Das Road- Lalmohon Shaha Street

English road-Nowab Yusuf road having following two branch roads:

- (i) Narinda road-Hrishi Kesh Das road connects Hatkhola road
- (ii) North-South road connects and crosses Zahir Raihan road (on Old Railway Track)

Heavy traffic coming from and going to Narayanganj and the old areas of Dhaka follow this road to avoid traffic jams at the Jatrabari intersection. Although heavy vehicles pass along this road from Buriganga bridge to Hatkhola road, the road is narrow and not wide enough for the movement of trucks.

The road passes through the older part of the city through narrow streets for which widening is impossible. However, Lalmohaon Shah street (Dholai khal), English road, North-South road and Nowab Yusuf road are wide enough for truck movement. This combined road system passes through the construction materials and whole-sale trading centers of English road, North-South road and the paper and paper pulp trading centers of Nawab Yusuf road. Trucks carrying rice for the wholesale trading centers of Babubazar also use this road

#### 4.3.2.2 Dayagonj – Hatkhala – Fulbaria – Katabone – Sonargaon Road

This road starts from the Saidabad intersection and passes along Hatkhola road and then follows the old railway truck alignment up to Sonargaon intersection. The road is wide enough for trucks. It crosses the North-South road. It is the main East-West connector road for Dhaka. It also connects Mirpur road at New Elephant road.

#### 4.3.2.3 Motijheel – Topkana – Moulana Bhasani – Kakrail – Toyenbee Circular Road

A loop is formed of by these roads and is connected with the other primary roads by secondary roads. The DIT extension road connects the loop with the Rampura

road at Khilgaon. The loop also connects Malibagh road, Tongi Diversion road and Dhaka – Mymensingh road. There are secondary roads in Gulshan and Banani, however, here truck movements are restricted.

#### **4.3.2.4 Manik Miha Avenue**

It connects the New Airport road with the Mirpur road. Begum Rokeya Sarany and Bijoy Sarany also originate from this route.

#### **4.3.2.5 Pantha Path**

It connects the New Airport road with the Mirpur road and touch the Green road. It is a good East-West Connecting road for truck movements.

#### **4.3.2.6 Darusalam Road**

This road starts from Mirpur road and passes through Mirpur sectors 1,6 and 14 and joins the New Airport road in the cantonment area. It crosses Rokeya Sarany at Mirpur section 6. It is a good road for truck movements.

#### **4.3.2.7 Gulistan – Jatarabari Road**

It starts from Zahir Raihan road through Toyenbee Circular road, Hatkhloa road, Sayadabad to Jatrabari road. At night it is a good truck route in Dhaka city.

#### **4.3.2.8 Rokeya Sarani Road**

It starts from Manik Mia Avenue through Bijoy Sarany to Mirpur section 10. This provides suitable truck movement at Mirpur area.

#### **4.3.2.9 Progati Sarani Road**

It starts from Syadabad road through DIT road, Progati Sarany, Shahid Suhrawardi Avenue to meet Khilgaon. The road is good for truck movement.

#### **4.3.2.10 Dhanmondi Road 2-Satmasjid Road**

This road starts from Mirpur road near the Science Laboratory and passes through the Dhanmondi residential area and Mohammadpur and rejoins Mirpur road at Shymoli. It is an important truck road. (Source : DUTP-II, 1996)



## **4.4 LOADING AND UNLOADING CENTERS**

### **4.4.1 INTRODUCTION**

Each of the whole-sale markets is the main loading-unloading centers for goods. The whole-sellers are using different types of trucks for goods movements. A large number of existing whole-sale markets are shown in Figure B-4.2. From DUTP-II, the functions of whole-sale markets and the availability of space for loading and unloading centers are as follows:

### **4.4.2 TEJGAON**

In Tejgaon area, there are many large and small industries, CSD godowns etc. The industrial raw materials and their yielding products daily are carried by trucks and loading and unloading of goods happens in front of these industries or on road sides.

### **4.4.3 TONGI**

Tongi is the biggest industrial area of the north side in greater Dhaka. Raw materials and produce of their products of these industries are carried only by trucks. The loading and unloading centers are from the Tongi bridge to all the gate of individual industries and both sides of the road.

### **4.4.4 MIRPUR**

There are many garments, ceramic, rubber, coal, fertilizer and others large and small industries and whole-sale shops in Mirpur. Trucks are used by these industries for carrying goods and loading-unloading take place in front of these industries and on both sides of road space. Trucks wait for loading and unloading goods on both sides of the roads and no land is there to plan for loading and unloading centers on both road-sides even of the industries.

### **4.4.5 GUBTALI**

There are mainly building materials like: bricks, cements, stones, soil etc. Loading and unloading takes place on both sides of roads and whole-sale shops.

### **4.4.6 AMINBAZAR**

There are a large number of brick field industries here. But the loading and unloading in those industries are done on both-sides of the Dhaka- Aricha highway. Sometimes road space is only used as the loading and unloading centers here.

### **4.4.7 PAGLA**

The biggest whole-sale centers of building materials like: bricks, sand, cement, stones, steel, rod etc. are here. Its loading and unloading centers mainly use both

sides of roads. There is no particular space for loading and unloading here. Pagla stands on the river Buriganga. The building materials mainly come from different parts of the country by river craft. The materials are carried only by trucks and distributed to the greater Dhaka.

#### **4.4.8 SHIDHIRGAONJ**

It stands on the Kachhpur bridge. The whole-sale centers of stones and sand are here. On the both sides of this bridge, the stones and sand whole-sellers store their materials which are carried mainly by trucks and distributed to the whole greater Dhaka. It is the loading and unloading center of the east side of Dhaka city.

#### **4.4.9 CHANKHAR POOL**

There are many transport agencies here. Steel billets, raw materials of textiles, leather, plastics, cement, oil etc. are loaded and unloaded from trucks on the both sides of road space.

#### **4.4.10 WISE-GHAT**

About 95% rice and fruits unloading center is located here. There is no space for entering trucks and unloading centers. It has become a tradition to unload rice and fruits from trucks only at Wise-Ghat.

#### **4.8.11 ENGLISH ROAD-ARMENITOLA**

The road starts from Nowabpur square and attached Nawab Yusuf road extending up to Babubazar. There are many whole-sale shops on both sides of the road and those shops deal specially in heavy building materials like: rod, steel, sheet, wood etc. carried by trucks, which park in front of the whole-sale shops for loading and unloading in parallel to the shops. Nowab Yusub road is popular for whole-sale shops which deal in paper and paper pulps. These are carried by trucks and loading-unloading happens on the both sides of roads.

Nayabazar is famous for iron sheets, rod and wood and household furniture. These materials are carried by trucks, which use parking space of English road and Nowab Yusub road.

North-South road is famous for many whole-sale centers of rod, cement, iron-sheet etc. on both sides of road. These materials are carried by trucks to loading centers on road sides and in front of shops.

Babubazar is famous as a rice whole-sale market, where loading and unloading of rice is done by trucks on both sides of road space.

## 4.5 FUTURE ESTABLISHMENT FOR TRUCK TERMINALS/STANDS

### 4.5.1 GROWTH OF TRUCK FLEET

Tables 4.1 and 4.2 show that trucks are increasing day by day because increase of agricultural products, industrial products and other products in the whole country. In the year of 1989-1990 to 1997-1998 the average rate of growth of trucks is 5.56% in whole Bangladesh.

Table 4.1: Number of trucks in whole Bangladesh

Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
No. of Trucks	23978	25471	26546	27395	28355	29742	33210	35475	36257	38990

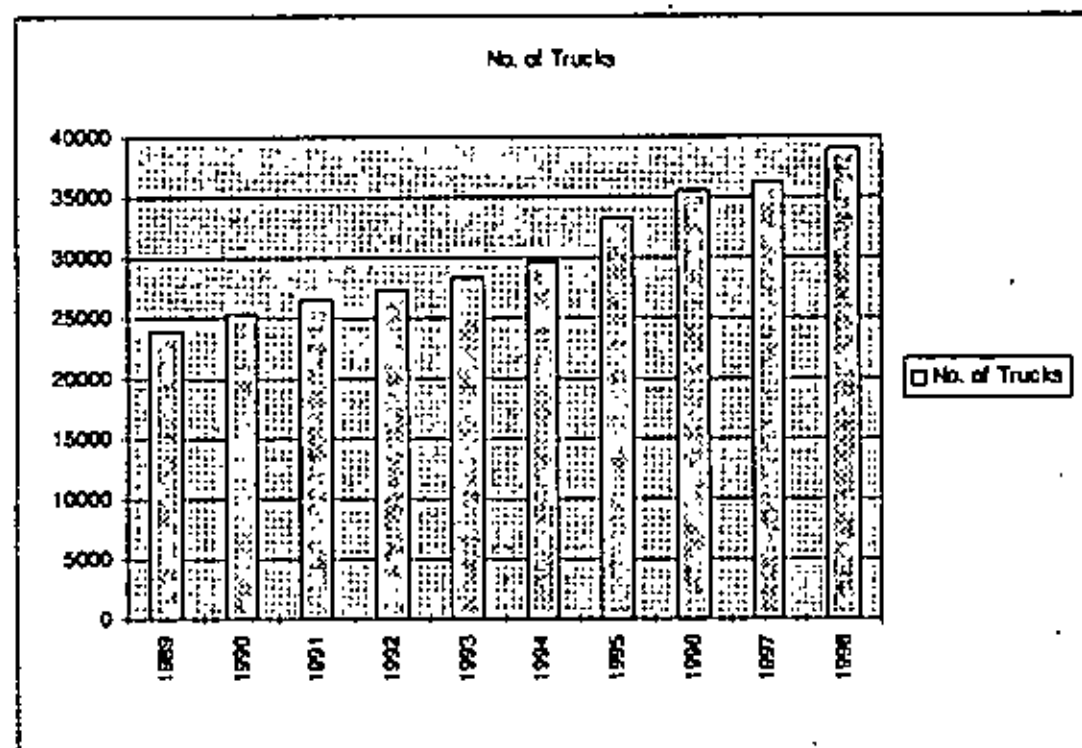


Figure 4.1: Number of trucks in whole Bangladesh. (Source: BRTA, January 2000)

**Table 4.2: Rate of growth in whole Bangladesh**

Year	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	Average Rate of Growth (%)
Rate of Growth (%)	6.00	4.00	3.00	3.00	5.00	12.00	7.00	2.00	8.00	5.56

Source: BRTA, January 2000.

But we have the average rate of growth of trucks as 5.29% in greater Dhaka and 5.48% in whole Bangladesh (Table 4.3).

**Table 4.3 : Number of trucks on road in greater Dhaka and Bangladesh.**

Region	No. of Trucks 1988	No. of Trucks 1989	No. of Trucks 1990	No. of Trucks 1991	Rate of Growth 1988-89	Rate of Growth 1989-90	Rate of Growth 1990-91	Average Rate of Growth
Greater Dhaka	8536	9048	9591	9961	6.00	6.00	3.86	5.29
Bangladesh	22621	23978	25471	25546	6.00	6.23	4.22	5.48

Source: DITS Working Paper No. 28, January 1994.

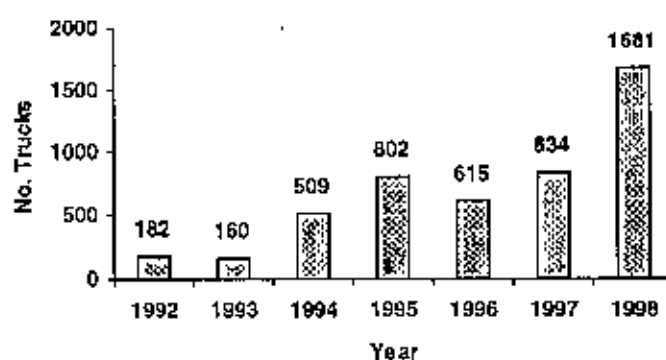
#### 4.6 DETERMINATION OF RELATIVE IMPORTANCE OF THE TERMINALS/STANDS

There were 11,796 trucks in 1997 registered in greater Dhaka (BRTA, 1998). Due to an expanding road network and construction of new bridges, trucks have increased their share of the intercity transport over rail and river transports. With the Jamuna bridge and the possibility of a bridge over the river Padma to connect Dhaka with Khulna and other southern parts of the country, the need for truck facilities is further enhanced. Below, the data of truck registered in Dhaka (year wise) is shown:

**Table 4.4: Numbers of trucks registered in Dhaka yearly.**

Year	1992	1993	1994	1995	1996	1997	1998
Trucks	182	160	509	802	615	834	1681

**Numbers of Trucks Registered in Dhaka**



**Figure 4.2:** Numbers of trucks registered in Dhaka city as yearly (Source: BRTA, 1998).

The Chittagong and Aricha highways are heavily used for bringing building materials to the city. There is a major source of sand at the Meghna river by the Chittagong road and the Aricha road. A major source of building material is found at Bailapur together with major brick making areas at this location and at Aminbazar. The movement of building materials is even more prominent within the city representing 41.4% of all tonnage and 25.6% of all trucks. Also, food and grain are the next largest tonnage representing respectively 19.2% and 10.4% of the total (Source: DITS-Working paper 25,1993) But at present trucks are used for all kinds of services for inhabitants in greater Dhaka. The actual determination of relative importance of the 9 selected sites for permanent truck terminals/stands in greater Dhaka follows.

#### **4.7 DEMAND OF TRUCKS**

From DUTP-I (1996), The number of trucks operating in greater Dhaka varies greatly. The reasons for such variation may be due to the inadequacy of statistical records on registration of trucks, fitness and finally licensing. There is an additional difficulty to determine how many trucks regularly drive partly in and out side greater Dhaka. Hence the number of trucks is 11,796 in greater Dhaka (Source: BRTA). The following table shows changes of population and vehicle fleet (1992 to 1997) in Dhaka city.

**Table 4.5: Changes of population and vehicle fleet (1992 to 1997) in Dhaka.**

Sl. No	Item	Estimate for 1992	Estimate for 1997	Percentage change annually
Population (Dhaka)		7,298,466	9,314,897	5%
<b>Vehicles (Dhaka)</b>				
1	Passenger cars	16,025	45,243	22%
2	Jeep/ Station Wagons/ pick up/ mini vans	15,284	20,183	9%
3	Big Buses	1,873	1,896	6%
4	Mini Buses	3,503	5,854	13%
5	Trucks	3,850	11,796	23%
6	Auto-rickshaws	26,815	62,803	19%
7	Motor cycles	88,985	105,673	8%
8	All Vehicles	156,335	253,448	10%

Source: BRTA, 1998

**4.8 FORECAST OF NUMBER OF TRUCKS IN 2006**

From DUTP-I (1996), for projection in year 1991 to 2006, the growth of trucks for greater Dhaka in the following assumptions has been considered:

- (a) A decline in rate of growth of trucks has been found in between the years 1990 and 1991 for greater Dhaka as well as for Bangladesh.
- (b) The DMDP assumed rate of growth of population shows a steady decline, 4.32% for 1991-1996 and 3.1% for 2001-2006.
- (c) The rate of economic growth of the country is moderate and is 4.50% in 1995-1996.
- (d) Trucks in greater Dhaka operate 4 hours per day, which may be increased.
- (e) The rates of growth of truck for the period of 1991-1996, 1996-2001, 2001-2006 are assumed to be 3.75, 3.50 and 3.25 respectively ( Table 4.6).

Table 4.6.: Forecast for trucks in greater Dhaka (1991-2006)

Period	Number of Trucks (Base Year)	Rate of Growth (Annual)	Number of trucks Increase (Approx.)	Number of trucks (Final Year)
-1991	-	-	-	10,000
1991-1995	10,000	3.75	1900	11,900
1996-2001	11,900	3.50	2100	14,000
2002-2006	14,000	3.25	2300	16,300

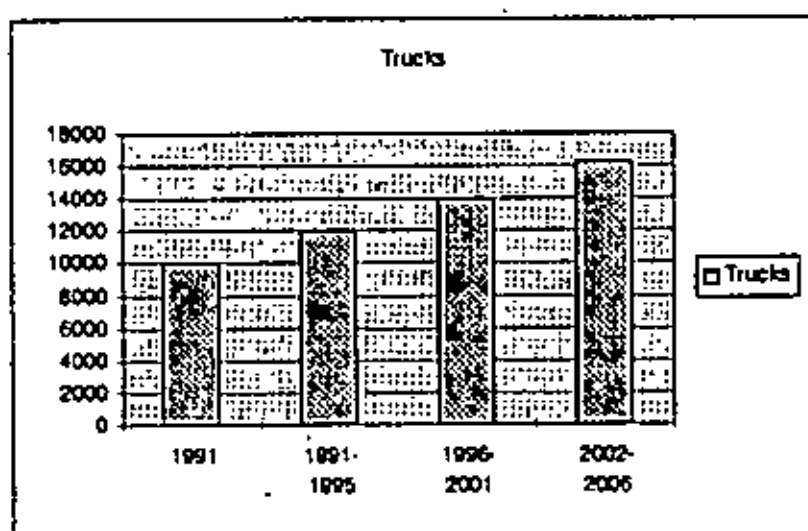


Figure 4.3: Forecast for trucks in greater Dhaka (1991-2006)

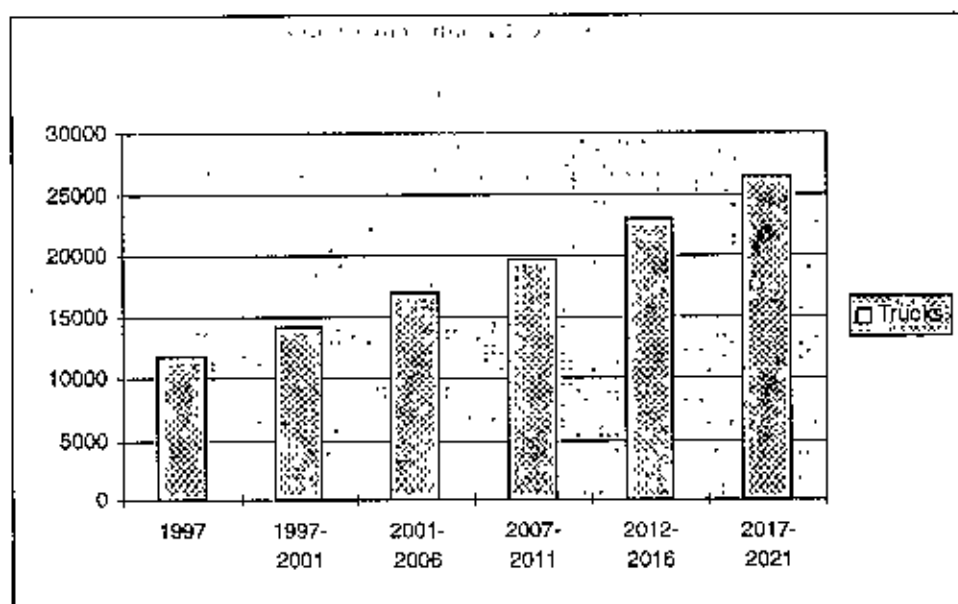
Source: DUTP-I, December 1996

I have used my present research work for the projection of growth of trucks for greater Dhaka, the assumption of DUTP-I (Dec. 1996) and added my own consideration.

- (i) The number of trucks in greater Dhaka is 11,796 up to year 1997 and growth of rate is 8% to 9% (Source: BRTA, March 2000).
- (ii) The rate of economic growth of the country is changed and is 5.3% in 1998-99.
- (iii) The rates of growth of trucks for the period of 1997-2001, 2002-2006, 2007-2011, 2012-2016 and 2017-2021 are assumed to be 4.00, 3.75, 3.50, 3.25 and 3.00 respectively. Then we get the following (Table 4.7).

**Table 4.7: Forecast for trucks in greater Dhaka 1997-2021, (Base year 1997).**

Period	Number of Trucks (Base year)	Rate of Growth (Annual)	Number of Trucks Increase (Approx.)	Number of Trucks (Final Year)
1997	-	-	-	11,796
1997-2001	11,796	4.081	2359	14,155
2002-2006	14,155	3.75	2654	16,809
2007-2011	16,809	3.50	2942	19,751
2012-2016	19,751	3.25	3210	22,961
2017-2021	22,961	3.00	3444	26,405



**Figure 4.4: Forecast for trucks in greater Dhaka (1997-2021)**

Source: Field Survey, January 2000.

#### 4.9 NEED FOR PARKING SPACE

From Table 4.8 it is shown that the Hino truck with a length of 8.10 meters is the longest truck and the Hindustan truck with a wide of 2.90 meters is the broadest truck in our country.



**Table 4.8.: Types and Dimension of trucks.**

Types	Capacity (in tons)	Length (in Meter)	Breadth (in Meter)	Dimension (In Sq. m.)
Iata	7	7.4	2.7	19.98
Hino	6	8.1	2.5	20.25
Hindustan	6	7.75	2.9	22.47
Hindustan	5	7.5	2.5	18.75
Bedford	6	6.9	2.5	17.25
Bedford	5	7.3	2.35	17.15
Mitsubishi	3	5.9	1.9	11.15
Bedford	3	6.1	2.2	13.42
Average	5.12	7.19	2.44	17.54

Source: DITS Working Paper No. 5, 1993

The parking space for a truck will therefore have a width of 3.66m (12 ft.). The largest length vehicle is plus 20% i.e. (8.10m  $\times$  1.2). This can be assumed as the parking space per vehicle = (W  $\times$  L  $\times$  1.2) sq.m.

Where W = 3.66 m. (12ft.) overall width.

L = 8.10 m. overall length.

1.2 = factor for the overall length of vehicle inclusive of an extra 20%.

Therefore, the overall space requirement of the longest truck and broadest truck currently operating in Dhaka is equal to (W  $\times$  L  $\times$  1.2) = (8.10  $\times$  3.66  $\times$  1.2) sq.m. = 35.58 sq.m. (Source: Time Saver Standards, Transportation, Truck Terminals)

#### 4.10 LAND REQUIRMENTS

From DUTP-I (1996), the truck may be parked in depots/stands during the truck ban period have been estimated on the following assumptions:

- Truck entry to Dhaka and exit from Dhaka will be equal.
- Truck on operation during ban period is 5%.
- Truck in garage for repairing is 10%.
- Truck waiting in private garage is 10%.
- Truck parked along roads at locations nearby whole-sale trade centers is 20%.

Therefore, it will be assumed that the trucks will not require to be parked in the authorized/organized depots are (5+10+10+20)% = 45%, which is amounting to 11,882 trucks.

The remaining trucks that need to be parked preferably in an organized and authorized depot amounts = (26,405-11,882) trucks = 14,523 trucks.

Hence the area for parking on an average space =  $(14,523 \times 35.58)$  sq.m. = 51672 sq.m. = 51.67 hectares and also add 40% extra land i.e. 20.67 hectares land will be needed for circulation area and service area of the terminals/stands. Finally the total requirement land needed will be 72.34 hectares except existing 1.30 hectares land (Table 4.10).

#### **4.11 CONCEPTUAL DISTRIBUTION OF LAND**

The existing area of 15 truck terminals/stands has 1.30 hectares. Here existing total =36.20 hectares land is needed for 7267 trucks in the year 2000, where parking demand is 13,212 trucks (Table 4.9). On the other hand, 72.34 hectares extension new land will be needed in the year 2021 for 14,523 trucks, where as parking demand is 26,405 trucks (Table 4.10).

#### **4.12 DISTRIBUTION OF TRUCK TERMINAL/STAND**

From the survey, perhaps Tejgaon Truck Terminal will need new 6.08 hectares land and similarly 4.70 hectares for Aminbazar, 2.85 hectares for Pagla, 2.60 hectares for English road-Armanitola, 2.55 hectares for Tongi, 1.87 hectares for Mohammadpur, 1.60 hectares for Saydabad, 1.77 hectares for Gubtali and 1.25 hectares for Dayagonj, 1.70 hectares for Dolaikhal, 1.37 hectares for Keranigonj, 1.56 hectares for Kamalapur, 2.24 hectares for Wise-Ghat, 1.82 hectares for Chandkha Pool, 2.24 hectares for Shiddhirgonj respectively will be needed. By the year 2000, (Table 4.11) out of 13,212 trucks, 7267 trucks need to be parked in the above terminals/stands. But in the above existing terminals/stands there are no enough land for establishing all truck terminals/stands in greater Dhaka. Only there are 9 suitable sites for 9 truck terminals/stands in greater Dhaka. The locations, sites and requirement of land are as follows: Kanchipur, its land requirement will be 15.12 hectares, similarly, 14.98 hectares for Aminbazar, 12.46 hectares for Tongi, 10.22 hectares for Zinjira, 5.96 hectares for Tejgaon, 4.90 hectares for Pagla, 4.23 hectares for Mohammadpur, 3.08 hectares for Gubtali, 1.40 hectares for Dayagonj respectively will be needed. It will have an approximate accommodation of 14,523 trucks for parking but parking demand will be for 26,405 trucks by 2021 (Table 4.10).

Table 4.9 : Existing distribution of parking space demand and supply for the year 2000.

Sl No.	Name of the Truck Terminals/Stands	Status	Area (Hectare)	Total Parking Space Supply (No. of Trucks)	Total Parking (No. of Trucks)	Total Land (Hectare)
1	Tejgaon Truck Terminal *	Unauthorized	*	1220	2165	6.08
2	Aminhazar Truck Terminal *	Unauthorized	*	945	1775	4.70
3	Pagla Truck Terminal	Unauthorized	0.30	572	1522	2.85
4	English Road - Aruanatola *	Unauthorized	*	522	755	2.60
5	Tongi Truck Stand	Unauthorized	0.50	512	820	2.55
6	Mnhammadpur Truck Stand *	Unauthorized	*	375	642	1.87
7	Sadabad Truck Stand	Unauthorized	*	320	604	1.60
8	Gubtuli Truck Stand	Unauthorized	*	355	530	1.77
9	Dayagonj Truck Depot	Authorized	0.50	250	475	1.25
10	Dolaikhal Truck Terminal *	Unauthorized	*	342	672	1.70
11	Keranigonj Container Port **	Unauthorized	*	275	525	1.37
12	Kamalapur Inland Container Port *	Unauthorized	**	314	650	1.56
13	Wise-Ghat Truck Terminal *	Unauthorized	*	450	755	2.24
14	Chandkha Pool Truck Stand *	Unauthorized	*	365	560	1.82
15	Siddirgonj Truck Stand *	Unauthorized	*	450	762	2.24
	Total		1.30	7267	13212	36.20

Source : Field Survey, January 2000

Formula: 1. Parking space per vehicle, sq. ft. = (overall length, ft  $\times$  1.2)  $\times$  12 ft  
 $= (8.10 \text{ m} \times 1.2) \times 3.66 \text{ m} = 35.58 \text{ sq.m.}$

2. Total land for parking space per truck = 35.58 sq. m. + 30% land for circular area + 10% land for servicing area = 49.81 sq. m.

Note: \* Indicates road space parking

\*\* Indicates proposed plan of DMDP for container port.

1 hectare = 10,000 sq.m. = 2.741 acres (1 Acre = 0.405 hectare)

36.20 hectares land is need for 7267 trucks in the year 2000.

Table 4.10: Proposed and approximate distribution of parking space demand and supply for the year 2021.

Sl. No.	Name of Truck Terminals/ Stands	Approximate parking Space Demand and Supply for Year 2021		
		Total Parking Space Supply (No. of trucks)	Total Parking Space Demand (No. of Trucks)	Total Land Supply (Hectares)
1	Kanchpur Truck Terminal	3035	5519	15.12
2	Aminbazar Truck Terminal	3007	5468	14.98
3	Tongi Truck Terminal	2502	4548	12.46
4	Zinpra Truck Terminal	2052	3731	10.22
5	Tejgaon Truck Stand	1195	2172	5.95
6	Pagla Truck Stand	984	1789	4.90
7	Mohammadpur Truck Stand	849	1543	4.23
8	Gubtali Truck Stand	618	1124	3.08
9	Dayagonj Truck Depot	281	511	1.40
	<b>Total</b>	<b>14523</b>	<b>26405</b>	<b>72.34</b>

Source : Field Survey, January 2000

Formula:

1. Parking Space Per Vehicle, sq. ft. = (overall length, ft  $\times$  1.2)  $\times$  12 ft.  
= (8.10 m  $\times$  1.2)  $\times$  3.66 m = 35.58 sq.m.
2. Total land for parking space per truck = 35.58 sq. m. + 30% land for circular area + 10% land for servicing area = 49.81 sq.m.

Note:

1 hectare = 10,000 sq.m. = 2.741 acres (1 acre = 0.405 hectare)

72.34 hectares land will be needed for 14523 trucks for the year 2021.

#### 4.13 ADVANTAGE AND DISADVANTAGE FOR GOVERNMENT, TRUCK OWNERS & TRUCK DRIVERS BY TRUCK TRANSPORT

An economic aspects the government, truck owners, truck drivers, terminal managers/authorities, whole-sellers and consumers are benefited by trucks. It also deals with other economic benefits including operating expenses, economic development, time saving, accident reduction, traffic jam reduction etc. for truck vehicle. Truck transport is a consideration of truck industry for communication of goods movements. This truck industry has a bright future in our country because of the best road network. About 2% of inter-district truck services are provided by the government owned Bangladesh Road Transport Corporation (BRTC), (DITS-

1994). The private truck owners pay all kinds of taxes, license fees etc. to government per year Tk. (20000.00-26000.00) approx. per truck. So from this industry the government gets large amount of revenue every year. Also, this truck industry is involved in the important role of carrying agricultural products, industrial products etc. from which the government gets revenue.

By survey, it is found that owners invest large amount of money but get small profit margin. Because there are many problems such as hazards to get a license, road permit, etc. Also, when truck accidents occur, truck owner harassments involve very high cost. The operating cost is even higher than total investment per truck. Evenhen the owners would like to increase their truck fleet because it is their business or occupation.

On the other hand, the truck drivers earn 10% commission of overall fare of truck operation and extra Tk. 1500.00 to 2000.00 per month from truck owners. In survey, they are found happy for 10% commission extra money. But it is a matter of sorrow that after driving trucks till their old age when their retirement takes place, they get no benefit from truck owners.

#### **4.14 ECONOMIC ASSESSMENT OF TRUCK TERMINALS/STANDS**

There are 20 (approx.) truck terminals/stands in greater Dhaka. Only Dayagonj Truck Depot is authorized, and government (DCC) earns Tk. 20.00 per truck for parking charge from this depot. The survey shows only 475 trucks pay Tk. 9500.00 per day i.e. monthly income is Tk. 285000.00 (approx.) and monthly necessary cost of the depot is total income of 60%, which is equivalent Tk. 171000.00. Then monthly profit from Dayagonj Truck Depot is Tk. 114000.00 (approx.). So, yearly profit from Dayagonj Truck Depot of DCC is Tk. 1.36 million (approx.). Similarly, it is a great loss of government that daily others 12,737 trucks park without paying parking charge in greater Dhaka, which is amounting to Tk. 36.68 million (approx.) of forecast Yr. 2000 and Yr. 2021 will be Tk. 76.04 million (approx.) this amount for 26405 trucks. Therefore, same way the revenue of other cities or towns in our country will increase in this truck industry.

**CHAPTER 5**  
**PROPOSED AND GEOGRAPHICAL LOCATIONS WITH SITE**  
**CHARACTERISTICS, DESIGN AND LAYOUT PLAN FOR TRUCK**  
**TERMINALS/STANDS IN GREATER DHAKA**

**5.1 INTRODUCTION**

In the field survey, I have suggested for 9 truck terminals/stands on the basis of technical advantages and other facilities as explained by the terminal managers, truck drivers, truck owners and concerned authorities. The 9 locations for the proposed terminals/stands are: Kanchpur, Aminbazar, Tongi, Zinjira, Tejgaon, Pagla, Mohammadpur, Gubtali and Dayagonj of greater Dhaka in Figure B-5.1.

**5.1.1 Kanchpur**

From Dhaka Structure Plan (1995-2015), the Metropolitan authority will afford high priority to the development of a limited access Eastern By-pass to become a key link in the emerging national network of arterial roads and to provide relief to the existing urban network. Because it was provided arterial road through the Metropolitan area as a key link between an upgraded Chittagong highway and communications to the North-West of the country via Tongail and the new Banga Bandhu bridge (Jamuna bridge). So, the proposed site (Plate C-5.1) for Kanchpur Truck Terminal is located on the South-East side of Kanchpur bridge by the south side of existing Chittagong road adjoining Sylhet and Narsingdi road. The heavy vehicles like trucks traveling from the eastern districts and the Northern districts come in this terminal and without the pick hour inflow to Dhaka city. There is 20 hectares of middle low land available by owners of Bangladesh Fisheries Department. Only 15.12 hectares land will be enough for parking space demand of 3035 (approx.) trucks with in total parking capacity of 5519 (approx.) trucks by the year 2021. The existing site is lower than Dhaka-Chittagong highway. The height of the low land varies from 3 meters to 4 meters.

**5.1.2 Aminbazar**

The Aminbazar Truck Terminal is located just south of the Dhaka-Aricha highway and is owned by DCC. It is only 50 meters away from the Mirpur bridge. On the

south of the site lies the village called Bardesh. On the east, the Turag river passes skirting the site. On the west there is a foot bridge connecting the highway and the village. The site is partially earth filled and the height is around 10 meters. This truck terminal is proposed to be located on very low land. The height of the low land is only around 4 meters. Source: DFTP-II (1996). But it is expected that this terminal will be parking space demand of 3007 (approx.) trucks within total parking capacity of 5468 (approx.) trucks for the year 2021. So, for this forecast the terminal will be needed 14.98 hectares land. But only 3.40 hectares of land is available to construct this terminal (Plate C-5.2). However, an addition of 11.58 hectares land will be expanded for this terminal.

### **5.1.3 Tongi**

The Tongi Truck Terminal is located in industrial area of the North side in greater Dhaka. This terminal is important for the north side of our country. The Eastern By-pass connects and touches Kaliakoir, Tangail through the Jamuna bridge. So, the heavy trucks will be at rest at the Tongi terminal and after pickhour will move to Dhaka city. There are about 10 hectares middle low land (Plate C-5.3) available for Tongi Terminal. This site is the opposite side of the Tongi-Kaligonj road. This terminal will be needed 12.46 hectares land for parked space demand of 2502 (approx.) trucks with in total 4548 (approx.) trucks in the year 2021. The owner of this land is the government. So this site is appropriate for a big truck terminal in this area for future need.

### **5.1.4 Zinjira (2<sup>nd</sup> Buriganga Bridge)**

Wise-Ghat, Badamtali and Babubazar are the largest business centers and goods can be carried to these places from the proposed truck terminals/stands. Buriganga 2<sup>nd</sup> bridge, truck terminal may be shifted to the opposite side of the river like Zinjira. The Southern districts will be connected by trucks inflow to Dhaka city. So, it is proposed (Plate C-5.4) for an inter-district truck terminal beside the 2<sup>nd</sup> Buriganga bridge like Zinjira. It will need 10.22 hectares land for parking of 2052 (approx.) trucks out of the total number of 3731 (approx.) trucks.

### 5.1.5 Tejgaon

The Tejgaon Truck Stand is located in the industrial area of Tejgaon on the abandoned land of Bangladesh Railway. About 1200 trucks park on the roads on both sides. Only Bangladesh Railway's land is available in this area. 5.95 hectares land will be needed for parking of space demand of 1195 (approx.) trucks within total parking capacity of 2172 (approx.) trucks for the year 2021. This land (Plate C-5.5) is suitable as it is high land for truck stand.

### 5.1.6 Pagla

The Pagla Truck Stand site is located to the south of Dhaka midway to Narayangonj. On the south the Dhaka-Narayangonj road runs and in between the road and the Buriganga river the building material trading zone lies. On the east it is bounded by a 7.5 meters wide earthen road; on the north lies the pond proposed (Plate C-5.6) to include within the truck stand beyond which there lies one industry and a pond along Dhaka-Narayangonj Railway line. The owner of this pond is Bangladesh Fisheries Department. The existing site is comparatively lower than the Dhaka-Narayangonj road (Source: DUTP-II, 1996). 4.90 hectares land will be needed for parking space demand of 984 (approx.) trucks within the total parking capacity of 1789 (approx.) trucks for the year 2021.

### 5.1.7 Mohammadpur

The proposed Mohammadpur Truck Stand (Plate C-5.7) is located just on the West of the flood protection embankment. Most of the area of the proposed truck stand lie on the Basila khal. On the south about 60 meters ahead from the stand the Shahid Minar for intellectual memory stands. As per topographic survey the height of the flood protection embankment is more than 18.50 meters and that of the earthen road on the north boundary is 19.50 meters (Source: DITS, 1996). The earthen road on the west having height around 18 meters run upto the Buriganga river. The height of the Basila khal varies from 12.50 meters to 14.50 meters land and it is 16 meters high in the south. Only 4.23 hectares land will be needed for parking space demand for 849 (approx.) trucks within the total parking capacity of 1543 (approx.) trucks for the year 2021.



### **5.1.8 Gubtali**

The proposed Gubtali Truck Stand is located just on the west side of Dhaka-Aricha highway. There are about 8 hectares of low land (Plate C-5.8) available owned by the government. This stand is used mainly for carrying building materials and garments goods of Mirpur area. Only 3.08 hectares land will be needed for parking space demand of 618 (approx.) trucks with in the total parking capacity of 1124 (approx.) trucks.

### **5.1.9 Dayagonj**

This is an authorized truck depot (Plate C-5.9) for inter-district trucks, located on a secondary road. Its area is 1 hectare where parking space demand of 281 (approx.) trucks within total parking capacity of 511 (approx.) trucks. For future extension 0.4 hectare land will be needed.

## **5.2 DESIGN AND LAYOUT PLANS FOR NINE TRUCK TERMINALS/ STANDS**

In order to offer the maximum technical facilities for the parking (Plate C-5.2a) of truck drivers of the country, I have discussed different aspects of the problems with them and sought their suggestions. I have compared and applied them with Plate C-5.2b from Time Saver Standards, Truck Terminals (docks). On the basis of these investigations, the following designs and lay out plans of 9 truck terminals/ stands have been prepared in Appendix-D. Those designs and lay out plans are as follows:

### **5.2.1 Kanchpur Truck Terminal**

This Truck Terminal should have a total area will 15.12 hect., parking area 10.80 hect., circulation area 3.24 hect., service area of 1.08 hect., and the number of total truck parking bays 3035 (Figure D-5.1).

### **5.2.2 Aminbazar Truck Terminal**

It's total area should be 14.98 hect., parking area 10.70 hect., circulation area 3.21 hect., service area 1.07 hect., and the number of total truck parking bays 3007 (Figure D-5.2).

### **5.2.3 Tongi Truck Terminal**

It's total area should be 12.46 hect., parking area 8.90 hect., circulation area 2.67 hect., service area 0.89 hect., and the number of total truck parking bays 2502 (Figure D-5.3).

### **5.2.4 Zinjira Truck Terminal**

It's total area should be 10.22 hect., parking area 7.30 hect., circulation area 2.19 hect., service area 0.73 hect., and the number of total truck parking bays 2052 (Figure D-5.4).

### **5.2.5 Tejgaon Truck Stand**

It's total area should be 5.95 hect., parking area 4.25 hect., circulation area 1.28 hect., service area 0.42 hect., and the number of total truck parking bays 1195 (Figure D-5.5).

### **5.2.6 Pagla Truck Stand**

It's total area should be 4.90 hect., parking area 3.50 hect., circulation area 1.05 hect., service area 0.35 hect., and the number of total truck parking bays 984 (Figure D-5.6).

### **5.2.7 Mohammadpur Truck Stand**

It's total area should be 4.23 hect., parking area 3.02 hect., circulation area 0.91 hect., service area 0.30 hect., and the number of total truck parking bays 849 (Figure D-5.7).

### **5.2.8 Gubtali Truck Stand**

It's total area should be 3.08 hect., parking area 2.20 hect., circulation area 0.66 hect., service area 0.22 hect., and the number of total truck parking bays 618 (Figure D-5.8).

### **5.2.9 Dayagonj Truck Stand**

It's total area should be 1.40 hect., parking area 1.00 hect., circulation area 0.30 hect., service area 0.10 hect., and the number of total truck parking bays 281 (Figure D-5.9).

### 5.3 TRUCK PARKING SPACE : DEMAND AND SUPPLY

During the survey, it was found that 9 truck terminals/stands of various size and operational condition. According to studies, the total parking space demand in greater Dhaka by the year 2021 will be for 14,523 trucks, where as the total parking capacity will be for 26,405 trucks. There is 9 high priority sites like: Kanchpur, Aminbazar, Tongi, Zinjira, Tejgaon, Pagla, Mohammadpur, Gubtali and Dayagonj which are selected for preparation of conceptual layout plans. The selected 9 truck terminals/stands together cover 51.67 hectares of land. Prepared conceptual layout plan for 9 truck terminals/stands can provide only 14,523 parking space with other needed facilities for the target year of 2021. There is a deficit of  $26,405 - 14,523 = 11,882$  parking space in the 9 selected locations. The proposal for location of six truck terminals/stands at Kanchpur, Tongi, Zinjira, Pagla, Mohammadpur and Gubtali are completely new. Details of the 9 truck terminals/stands are recorded in Table 5.1.

**Table 5.1 : Parking space Demand, Supply and Deficit to the proposed Truck Terminals/Stands (Up to year 2021)**

Sl. No	Location / Name	Area (In Hectares)	Parking Space Demand	Parking Space Supply	Remarks
1	Kanchpur	15.12	5519	3035	Deficit = 2484
2	Aminbazar	14.98	5468	3007	Deficit = 2461
3	Tongi	12.46	4548	2502	Deficit = 2046
4	Zinjira	10.22	3731	2052	Deficit = 1679
5	Tejgaon	5.95	2172	1195	Deficit = 977
6	Pagla	4.90	1789	984	Deficit = 805
7	Mohammadpur	4.23	1543	849	Deficit = 694
8	Gubtali	3.08	1124	618	Deficit = 506
9	Dayagonj	1.40	511	281	Deficit = 230
	<b>Total</b>	<b>72.34</b>	<b>26,405</b>	<b>14,523</b>	<b>Total Deficit = 11,882</b>

Source: Field Survey, January 2000.

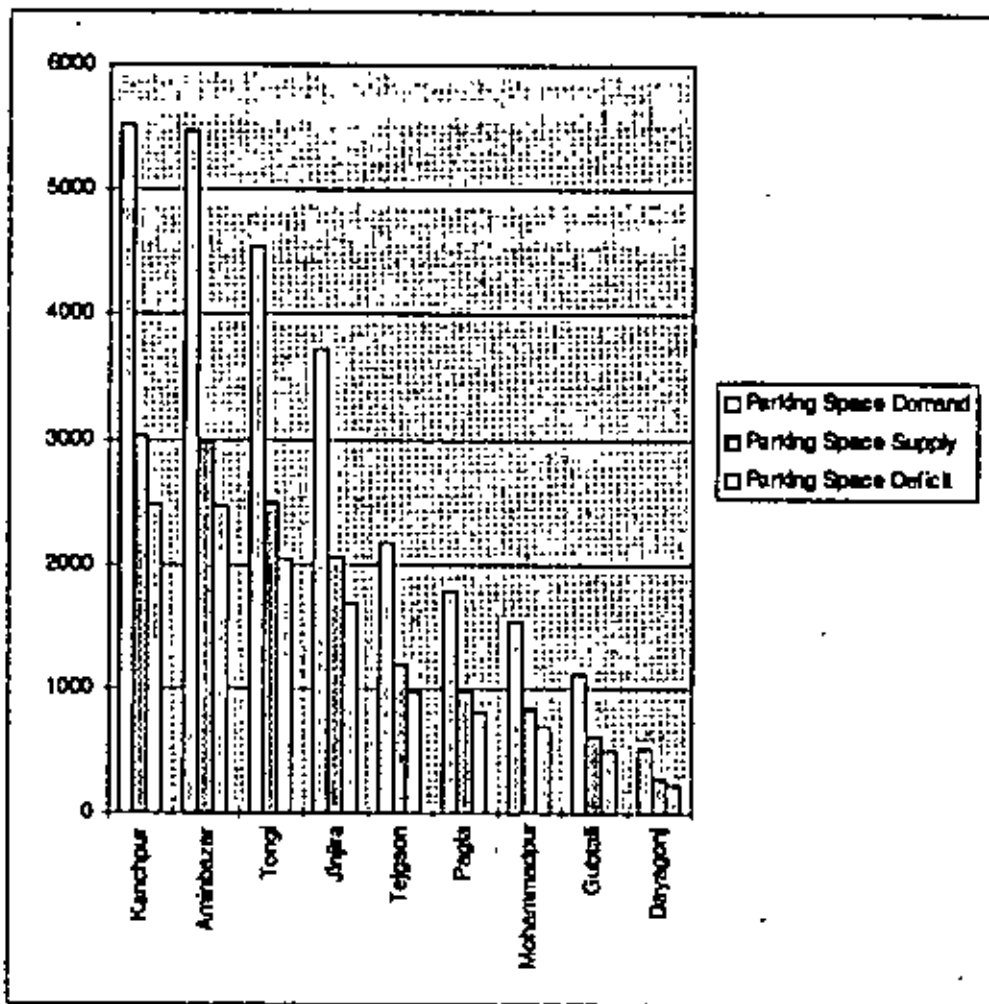


Figure 5.1 : Parking space demand, supply and deficit to the proposed Truck Terminals/  
Stands in greater Dhaka.

Source: Field Survey, January 2000.

#### 5.4 LAND OWNERSHIP PATTERN OF THE PROPOSED TERMINALS/ STANDS

The land ownership for the 9 selected truck terminals/stands has been determined through site visits and discussions. The details of ownership and quantity of land are recorded in Table 5.2.

**Table 5.2: Land ownership pattern of Truck Terminals/Stands (Area in hectare)**

Sl. No.	Location Name	Total Area	Ownership Pattern		
			DCC	Government	Private
1	Kanchpur	15.12	-	15.12	-
2	Aminbazar	14.98	14.98	-	-
3	Tongi	12.46	-	12.46	-
4	Zinjira	10.22	-	-	10.22
5	Tejgaon	5.95	-	5.95	-
6	Pagla	4.90	-	4.90	-
7	Mohammadpur	4.23	4.23	-	-
8	Gubtali	3.08	3.08	-	-
9	Dayagonj	1.40	1.40	-	-
	<b>Total</b>	<b>72.34</b>	<b>23.69</b>	<b>38.43</b>	<b>10.22</b>

Source: Field Survey, January 2000.

## 5.5 PLANNED LAND USE ANALYSIS OF THE TERMINALS/STANDS

For the future plan for a newly located truck terminals/stands land use analysis on parking space, space for circulation and service area is required to be done and they are as follows for the 9 selected truck terminals/stands:

### 5.5.1 Parking Space

Total parking space for 9 selected truck terminals/stands covers 43.40 hectares or, 60% of land and will provide space for parking 14,523 trucks within total demand of parking 26,405 trucks for the year 2021.

### 5.5.2 Inner Circulation Space

30% or 21.70 hectares land for circulation of truck terminals/stands is covered because circulation space includes the open space and space for maneuvering. Details of a land use analysis are recorded in Table 5.3. The conceptual layout plans for the 9 truck terminals/stands are shown in Figures D(5.1-5.9), which follows Table 5.3.

**Table 5.3: Planned land use analysis of Truck Terminals/Stands (Area in hectares)**

Sl. No.	Location Name	Parking Area	Circulation Area	Service Area	Total Area
1	Kanchpur	10.80	3.24	1.08	15.12
2	Aminbazar	10.70	3.21	1.07	14.98
3	Tongi	8.90	2.67	0.89	12.46
4	Zinjira	7.30	2.19	0.73	10.22
5	Tejgaon	4.25	1.28	0.42	5.95
6	Pagla	3.50	1.05	0.35	4.90
7	Mohammadpur	3.02	0.91	0.30	4.23
8	Gubtali	2.20	0.66	0.22	3.08
9	Dayagonj	1.00	0.30	0.10	1.40
	Total	51.67	15.51	5.16	72.34

Note: Total parking space for 1 truck = 49.81 sq. m. (Parking space for 1 truck = 35.58 sq.m. + 30% land for circular area + 10% land for servicing area).

### 5.5.3 SERVICE AREA/ REAS

The main land of truck terminals/stands involves the land used for parking space and for circulation of trucks within terminals /stands. A truck terminal/stand also needs other functions to drive the terminals/stands smoothly. These functions may be located in one or more places depending on the site characteristics, called the service area. From DUTP-II (1996) there are some functions of a service area (5.5.3.1 to 5.5.3.18) common to 9 truck terminals/stands and may be described as follows:

#### 5.5.3.1 Workshops

Every truck terminal/stand needs a workshop where all sorts of truck repair may be done. Any truck may require minor or major repairs at any time. To repair trucks, the workshop will contain and store all tools, equipment's and spare parts. If needed facilities are available in workshop, then cost and time will be saved for trucks to go out for repair. Road congestion due to truck movement to and from workshop will be minimized.

### **5.5.3.2 Service Center**

Most of the time trucks move on rough and earthen road and get muddy easily. One service center needs to be located to wash the truck and clean the engine and its other parts.

### **5.5.3.3 Fuel Station / Tyre Gas**

One fuel station should be located in a truck terminal/stand. Usually trucks after performing their assignment are parked in a terminal/stand and wait for hire. During the period of waiting for next trip, trucks usually do not take fuel. Generally fuel tank is filled when it is hired for next trips and the quantity of fuel is taken as per nature of trips. If fuel is available in a terminal/stand time and cost will be saved. The fuel station should be located near the main vehicular road so that in addition to trucks parked in the terminals/stands other vehicles can also take fuel from this station. A fuel station can not run depending only on selling fuel to the trucks parked in concerned terminals/stands.

### **5.5.3.4 Rest House**

The truck terminals/stands, should have rest houses for drivers. Sometimes the drivers drive long distances without rest, food and sleep. After parking their trucks in a terminal/stand, they need rest. To pass a night in a hotel is expensive and sometimes it is not affordable for a truck driver, who may then pass the night without rest. Therefore, a rest house may be located for truck drivers which will be cheaper with more comfort, amenities and security. It should be located in a comparatively calm and quiet place providing facilities for sleeping, bathing, eating and an office for depositing valuables.

### **5.5.3.5 Shops**

The truck driver needs articles of immediate need including general medicine. A few shops may be located in the truck terminals/stand. These shops will sell articles of daily needs.

### **5.5.3.6 Mosque**

A mosque may be located in every truck terminal/stand where truck drivers, management personnel and others may perform their regular prayers.

### **5.5.3.7 Union Office**

In every truck terminal/depot there exists a truck driver's union office. Amongst other functions, the union office maintains the communication between the freight business and truck drivers. Hiring of trucks is done through the union office personnel who gives the guarantee for safe carrying of goods.

### **5.5.3.8 Owner's Association Office**

Truck owners' association office was not commonly found in truck terminals/stands. It is the demand of the drivers that the owners' association office should be located there. The reason may be for easy exchange of opinion between the truck owners and drivers.

### **5.5.3.9 Car Parking**

Truck owners and customers who hire trucks sometimes use their own cars to go to the truck terminals/stands. These cars require to be parked in a safe place. Therefore, car parking space may be located in front of the owners' association and drivers' union offices.

### **5.5.3.10 Security Post**

At the gate of entry a security post may be located so that no outsider/unwanted person and vehicles can enter the truck terminal/stand. From the security post, the truck terminal/stand will be controlled.

### **5.5.3.11 Check Post**

One check post should be located at the exit where trucks will be checked e.g. steering, speed meter, brake, fuel pressure, spare wheel and so on. The general health condition of the driver must be checked to certify whether the driver is physically fit to drive the truck for a long distance or not. The clearance certificate for the truck as well as for drivers should be provided by the check post.

### **5.5.3.12 Tractor-Trailer/Long Trucks**

It is learnt that there are 400 to 500 tractor-trailer or long trucks in Bangladesh. They are used to carry goods like containers, long electric polls etc. The truck terminal/stand management raised the question to examine whether parking space for those long trucks may be provided in the proposed truck terminals/stands. Long



trucks now in operation in Dhaka are parked with their own arrangements. It seems it will not be possible to create parking space in the concerned truck terminals/stands because long trucks will require very large turning space. At present, they can be parked in truck terminal constructed with transfer facilities for long trucks.

#### **5.5.3.13 Transfer Point**

Although parking of long trucks cannot be allowed in the concerned truck terminals/stands, goods carried by heavy trucks will be difficult to deliver to its owner. Transfer points which is one of the objectives of DUTP-II may be thought of and for which a space may be earmarked in each truck terminal/stand.

#### **5.5.3.14 Boundary Walls**

A truck terminal/stand must be bounded by a strong high wall so that the trucks loaded or unloaded may be parked in safety.

#### **5.5.3.15 Gates**

Strong gates should be fitted on the walls of truck terminals/stands which in time of need can be closed to protect the loaded as well as unloaded trucks from any miss-happenings.

#### **5.5.3.16 Drainage**

In Bangladesh the rain is heavy and in most cases storm water accumulates inside the truck terminals/stands which spoils the whole environment, and particularly causes damage to the vehicle engines. Therefore, to drain out the storm water, efficient drainage needs to be constructed.

#### **5.5.3.17 Restaurant**

Food is the main energy to build in our body. A truck operator or helper or any person of terminals/stands need food. To live human life food is most essential. So, a restaurant may be established in front side or front corner of the terminals/stands.

#### **5.5.3.18 Medi-care center**

One medi-care center should be established in truck terminals/stands. For road accidents, sickness, or any kind of accidents help can be ensured from the medi-care center. It should be located to one corner of the quiet place of the terminals/stands (Source: DUTP-II, 1996).

## CHAPTER 6

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

This study was designed for a modern concept of truck terminals/stands in our country. For a modern concept of truck terminals/stands, a similar survey was conducted among the members of 15 truck terminals/stands, 120 truck owners and 600 truck drivers of present traffic system, loading and unloading system, indiscriminate truck parking system in greater Dhaka. An economic assessment of truck terminals/stands and finally overall prospect of the truck terminals/stands in greater Dhaka was examined from different points of view, with support from the study results as well as secondary evidences. The findings during the analyses obtained from secondary sources, data and field survey are presented in this chapter.

#### 6.2 SUMMARY AND FINDINGS OF THE RESEARCH WORK

In this research work, it is proposed to formalize and to give official status to truck terminals/stands sites in 9 locations. These are: Kanchpur, Aminbazar, Tongi, Zinjira, Tejgaon, Pagla, Mohammadpur, Gubtalj and Dayagonj selected for truck terminals/stands to reduce traffic jams and kerbside truck parking on major roads and also reduce road accidents.

#### 6.3 CONCLUSIONS

The following conclusions can be drawn from the study:

1. There is no alternative ways without authorized and official status of truck terminals/stands in greater Dhaka because the city expansion has brought with it an increased requirement of building materials and it is essential for transportation of foodstuff into the city.
2. In greater Dhaka 9 or 10 authorized terminals/stands will be established. As a result heavy traffic congestion, caused by truck parking along the busy roads particularly at intersections causing great pressure on the major roads will be reduced.

11196

3. Unauthorized truck terminals / stands cause environmental and health hazard, as well as economic losses suffered by city dwellers. On the other hand, haphazard truck parking on both sides of roads create traffic jam, for which city dwellers fail to attend the office in time and students miss their important classes. The idling automobiles, buses, trucks, cars etc. burn valuable fuel during traffic-jams resulting wastage of our limited energy resources. By a rough estimate, this figure is around 200 million US dollars annually (Source: Observer Magazine, March 2000). So, it is essential to establish authorized and permanent truck terminals/stands in Dhaka city.
4. It is a great loss of the government to the tune of Tk. 36.68 millions (year 2000) for having no authorized terminals/stands in greater Dhaka. This amount will be Tk. 76.04 millions in the year 2021 for 26405 trucks of greater Dhaka. So, by establishing authorized truck terminals/stands in greater Dhaka, the government will get an additional revenue of Tk. 76.04 millions from this sector.

#### **6.4 RECOMMENDATIONS FOR TRUCK PARKING POLICY**

The policies are grouped under a series of issues and a brief statement as follows:

1. All truck drivers should abide by the existing time of truck movements in Dhaka city, where the existing time is: 08am-8pm (close), 8pm-8am (open).
2. Trucks should not be allowed to park, stop or wait in primary, secondary, local and connector roads and road intersections without special permission to park, stop or wait.

3. Provision should be made for heavy goods vehicles like trucks and smaller vans to carry out loading-unloading, transshipment of goods properly in business centers and whole-sale markets or streets.
4. Gradually to increase parking charges of trucks in business centers and whole-sale markets of pick hour.
5. Heavy motor vehicles as trucks should not be allowed to park, wait or stop inside residential neighborhood roads.
6. Preparation of a detailed plan and its execution for truck terminals/stands in greater Dhaka.
7. The government should formulate some principles to help the private sectors or organizations construct truck terminals/stands in a planned way. For example, those truck terminals/stands can be constructed with bank loans or through lease systems, so that in future after a specified time, those terminals/stands can be brought under the government control.

#### **6.5 RECOMMENDATION FOR FUTURE RESEARCH**

The following research works are being recommended to undertake as follow-up studies:

1. There was an unavoidable limitation of this research work as the truck drivers' behaviour could not be analysed. This behaviour often contributes to accidents. So, it is recommended to undertake in depth route level study of truck drivers behaviour and causes of truck accidents.
2. The present study is also more sophisticated applying by GIS based truck terminals in greater Dhaka.

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**APPENDICES (A -D)**

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**Questionnaire-a**

(For Manager/Authority of Truck Terminals/Parks/Stands)

**Questionnaire Survey on**

**“A Study on Spatial Distribution of Truck Terminals/Stands in Greater Dhaka”.**

Department of Urban and Regional Planning

Bangladesh University of Engineering and Technology, Dhaka.

(For Academic Research Only)

Sl. No.-----Time-----a.m./p.m. Date-----

1. Name of Enumerator: -----

2. Name of Respondent: -----

3. Information of the Respondent:

Age	Sex	Educational Level	Occupation
1. >= 18	1. Male	1. Illiterate	1. Govt. Service
2. 20-29	''	2. Primary	2. Private Service
3. 30-39	''	3. Secondary	3. Business
4. 40-49	''	4. S S C	4. Retired Service Holder
5. 50-59	''	5. H.S.C	5. Self Employment
6. 60-69	''	6. Graduate	6. Others
7. >= 70	''	7. Masters	
		8. Others	

Information of the Truck Terminal/Park/Stand.

4. Name of the Terminal/Park/Stand:

- |                              |                                      |
|------------------------------|--------------------------------------|
| 1. Tejgaon Truck Terminal    | 9. Gubtali Truck Stand               |
| 2. Dayagonj Truck Depot      | 10. Dolaikhal Truck Terminal         |
| 3. Tongi Truck Stand         | 11. Keranigonj Container Port        |
| 4. Pagla Truck Terminal      | 12. Karnafapur Island Container Port |
| 5. Sandabad Truck Terminal   | 13. Wise-Ghat Truck Terminal         |
| 6. Mohammadpur Truck Stand   | 14. Chandkha Pool Truck Stand        |
| 7. Amin bazar Truck Terminal | 15. Shuddhirgonj Truck Stand         |
| 8. English Road - Armentola  |                                      |

5. Official Status

1. Authorized                      2. Unauthorized                      3. Applied for authorization

6. Area in Hectares:              1. Road- side parking              2. ----- Hectares

7. Truck Parking Pattern (24 hr.).

- a. How many Inflow trucks (approximate).              Ans. -----  
b. How many Exit flow trucks (approximate):              Ans. -----  
c. How many idle trucks (active):              Ans.-----  
d. How many idle trucks (inactive).              Ans.-----  
e. How many trucks remain idle (Total idle trucks).              Ans.-----  
f. Total numbers of parking capacity (a-b+c):              Ans.-----

8. Mention the Types (Model) and Capacity (in tons) of trucks:

1. Tata- (7 tons). Number of Trucks: -----  
2. Hino/Hindustan/Bedford- (6 tons) Number of trucks. -----  
3. Hindustan/Bedford- (5 tons). Number of trucks: -----  
4. Mitsubishi/Bedford- (3 tons). Number of trucks: -----  
5. Others: -----

9. Parking Space:              Ans.      1. Sufficient              2. Insufficient

10. If "insufficient" then whether land is available for expansion:

1. Available  
2. Not available

11. How much land is available (Amount of land in Hectares): Ans. -----

12. Owner of that land :              1. DCC              2. Govt.              3. Private

13. Mention the existing driving time in Dhaka city:

1. 08 am-8pm (Close)              2. 8pm-8am (Open)

Do you agree with this time?              Ans.      1. Yes      2. No

14. Do you think the following facilities are available?

- |                         |                    |                       |
|-------------------------|--------------------|-----------------------|
| * Parking Shed          | * Fuelling         | * Spare parts         |
| * Loading               | * Tyre gas filling | * Grocery shops       |
| * Unloading             | * Toilet           | * Restaurant          |
| * Security              | * Bath             | * Pure Drinking water |
| * Rest House            | * Mosque           | *Others               |
| * Servicing/Washing Bay | * Medh-care        |                       |

Ans.      1. Yes      2. No

15. Do you agree that a well established truck terminal/stands reduce traffic jams, road accidents and stop environment pollution in greater Dhaka?

Ans.      1. Yes      2. No

**Questionnaire-b**  
(For Truck Drivers)  
**Socio-Economic Survey**  
**Questionnaire Survey on**  
**"A Study on Spatial Distribution of Truck Terminals/Stands in Greater Dhaka".**  
Department of Urban and Regional Planning  
Bangladesh University of Engineering and Technology, Dhaka.  
(For Academic Research only)

Sl. No. ----- Time-----a.m./p.m. Date-----

1. Name of Enumerator: -----
2. Name of Respondent: -----
3. Total Family members: -----
4. Information of the Respondent:

Age	Sex	Educational Level	Occupation
1. >= 18	1. Male	1. Illiterate	1. Govt. Service
2. 20-29		2. Primary	2. Private Service
3. 30-39		3. Secondary	3. Self Employment
4. 40-49		4. S.S.C	4. Retired Service Holder
5. 50-59		5. H.S.C	5. Others
6. 60-69		6. Graduate	
7. >= 70		7. Others	

5. What is your monthly income from salary? Ans. Tk.-----
6. Have you any other source of monthly income? Ans. 1. Yes 2. No
7. If 'Yes', then say the source of income?
  1. Commission @ Tk. 10% of total trips
  2. Commission @ Tk. 12% of total trips
  3. Commission @ Tk. 15% of total trips
  4. Others
8. How much is your total income with commission per month? Ans. Tk.-----
9. How much is your monthly expenditure? Ans. Tk.-----
10. Do you like this profession of truck driving? Ans. 1. Yes 2. No
11. If 'Yes', then why?
  1. Good Salary
  2. Driving Satisfaction
  3. Traveling the whole of Bangladesh.
  4. Honor of the profession
  5. Others

12. If 'No', then why?

- |   |                      |
|---|----------------------|
| 1. Police Sergeant misuses the Traffic Rules. | 4. Traffic Accident  |
| 2. Low Salary                                 | 5. Low Social Status |
| 3. Health hazard                              | 6. Others            |

13. Where are the loading and unloading centers (Trucks parking in this terminal: Write names)?

- |                              |                                      |
|------------------------------|--------------------------------------|
| 1. Industries                | 5. Building materials Selling Center |
| 2. Govt. / Private Warehouse | 6. On Road-side                      |
| 3. Wholesale Market          | 7. Others                            |
| 4. Katcha Market             |                                      |

14. What are the materials carried by the trucks (Parking in this terminals)?

- |                            |   |
|----------------------------|---|
| 1. Building materials      | 6. Container                            |
| 2. Food Stuff              | 7. Agricultural Raw materials           |
| 3. Earth / Sand / Gravel's | 8. Solid Waste (Household / Industrial) |
| 4. Wood                    | 9. Others                               |
| 5. Garments goods          |   |

15. If a truck from this terminal carries any material inside the city, which are the roads, that it uses?

- |                          |                              |                                 |
|--------------------------|------------------------------|---------------------------------|
| 1. Mirpur Road           | 7. DIT- Road                 | 14. Tikatoli Road               |
| 2. Agargaon Road         | 8. Outer Circular Road       | 15. Gandaria-Gulistan Road      |
| 3. Rokeya Sharam Road    | 9. Gulistan – Jatrabari Road | 16. Postagola- Milbarrak Road   |
| 4. Old Air-port Road     | 10. North –South Road        | 17. Old Railway-Sonargaong Road |
| 5. Tongi Diversion Road  | 11. Dhaka-Naragonj Road      | 18. Others Road                 |
| 6. Dhaka-Mymensingh Road | 12. Progoti Sarani Road      |                                 |

Ans. 1. Primary Roads 2. Secondary Roads 3. Other Roads

16. If consignments are inter-district, which are the cities / places they go and which is the highway they follow?

- |                          |                                  |
|--------------------------|----------------------------------|
| 1. Dhaka-Mymensingh Road | 5. Dhaka- Norshindi –Sylhet Road |
| 2. Dhaka-Chittagong Road | 6. Dhaka- Naragonj Road          |
| 3. Dhaka-Aricha Road     | 7. Dhaka- all Districts Road     |
| 4. Dhaka- Mawa Road      | 8. Dhaka-all Thana Road          |

Ans. 1. Primary Roads 2. Secondary Roads 3. Other Roads

17. How many hours (on an average) does a truck drive? Ans. -----Hr.

18. Do you think that the consignment of trucks is increasing day by day? Ans. 1. Yes 2. No

19. Do you think that the city roads are suitable for truck movement? Ans. 1. Yes 2. No

20. If the answer is 'No', then what are the reasons?

1. Mixed movement of Motorized and Non-Motorized vehicles.
2. Lack of identified Truck Routs.
3. Weak enforcement of traffic Rules.
4. Anywhere the pedestrian crosses the road.
5. Others

21. Do you think that trucks are also responsible for the road accident? Ans. 1. Yes 2. No

22. If 'Yes', then what are the reasons?

- |   |                                      |
|---|--------------------------------------|
| 1. Lack of sufficient Training Institutes for truck drivers | 5. Weak enforcement of traffic rules |
| 2. Problems of traffic management                           | 6. Crossing road by pedestrian       |
| 3. Mixed movement of Motorized and Non-Motorized vehicles   | 7. Others.                           |
| 4. Lack of identified truck routes.                         |                                      |

23. If 'No', then what are the reasons of road accident?

1. Lack of knowledge of traffic rules.
2. Roads surface are not suitable for truck movement.
3. Roads are not wide enough for truck movement.
4. Crossing the road by pedestrian
5. Others

24. Would you give some suggestions to decrease the road accidents?

1. Establishment of Training Institutes for truck drivers.
2. Obedience of the traffic rules by drivers of all vehicles.
3. Identifying roads for motorized and non-motorized segregation.
4. Regular checking of all vehicles fitness before start.
5. Awareness development of road crossing to the pedestrian.
6. Others.

25. There is a common impression that reckless driving of trucks in most cases is responsible for the road accident. Do you agree?

Ans. 1. Yes 2. No

26. Do you think that on the road truck loading and unloading is the main traffic congestion generator? Ans. 1. Yes 2. No

27. If 'Yes', then what should be done for orderly parking of trucks to decrease the traffic congestion?

-Fixing on load truck loading and unloading time.

Ans. 1. Yes 2. No

28. If 'No', then what are the main causes of traffic congestion?

-Lack of awareness and careless movement. Ans. 1. Yes 2. No

29. Do you think that after a long drive a driver should take rest at least for one week?

Ans. 1. Yes 2. No

30. If 'No', then why the drivers do not take rest?

- Ans.
1. Getting immediate consignment.
  2. To carry out orders of the truck owners
  3. Extra income
  4. Others

31. How much is the night- time parking charge or hourly parking charge of this terminal?

Ans. 1. No Charge 2. Tk -----

32. Do you agree that a well established truck terminals/stands reduce traffic jams, road accidents and stop environment pollution in greater Dhaka?

Ans. 1. Yes 2. No

**Questionnaire-c**  
(For Truck Owner)  
Questionnaire Survey on  
"A Study on Spatial Distribution of Truck Terminals/Stands in Greater Dhaka".  
Department of Urban and Regional Planning  
Bangladesh University of Engineering and Technology, Dhaka.  
(For Academic Research Only)

Sl. No.-----Time-----a.m./p.m. Date-----

1. Name of Enumerator: -----

2. Name of Respondent -----

3. Information of the Respondent:

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3. 30-39		3. Secondary	3. Business
4. 40-49		4. S.S.C.	4. Retired Service Holder
5. 50-59		5. H.S.C.	5. Self Employment
6. 60-69		6. Graduate	6. Others
7. >= 70		7. Masters	
		8. Others	

4. With how many trucks did you enter into the business?

Ans. -----

5. Monthly Expenditure for 01 truck:

a. How much is the salary of the Truck Drivers per month?

Ans. Tk.-----

b. How much is the fuel cost per 100 Kilometers?

Ans. Tk.-----

c. How much is the Maintenance-cost per month per truck?

Ans. Tk.-----

d. How much is the labor cost per month?

Ans. Tk.-----

e. How much is the Tax (all kinds) per year per truck?

Ans. Tk.-----

6. How much is monthly income from one truck excluding expenditure? Ans. Tk.-----

7. Do you think that you will increase your fleet in the near future? Ans. 1. Yes 2. No

8. Do you agree that a well established truck terminals/stands reduce traffic jams, road accidents and stop environment pollution in greater Dhaka?

Ans. 1. Yes 2. No

**Collection of Information:**

**1. List of Offices/Organizations to be contracted to collect Data, Location Maps and Other Information:**

1. DCC: Locational maps of Truck Terminals/Stands/Parks and available land.
2. BRTA: Statistics on licensed trucks.
3. RAJUK, DMDP: Information of land availability
4. BRTC: Location of Truck Terminals of BRTC.
5. DMP road accident and suitable truck driving roads and truck ban periods.
6. Driver's Union Offices: Information on parking space & others.
7. Owner's Association Offices: Existing and future truck fleet.

**2. List of Truck Terminals/Stands/Parks to be surveyed:**

1. Tejgann
2. Dayagioj
3. Tongi
4. Pagla
5. Sandabad
6. Mohammadpur
7. Aminbazar
8. Gabtali
9. English Road-Armenitola.
10. Dohalkhal
11. Keranigonj Container Port
12. Kamlapur Inland Container Port
13. Wise-Ghat
14. Chandkha Pool
15. Shiddhirgonj

**Appendix-B**

---

**- MAPS REPRESENTATION**



Locations of Truck Depots/Parks

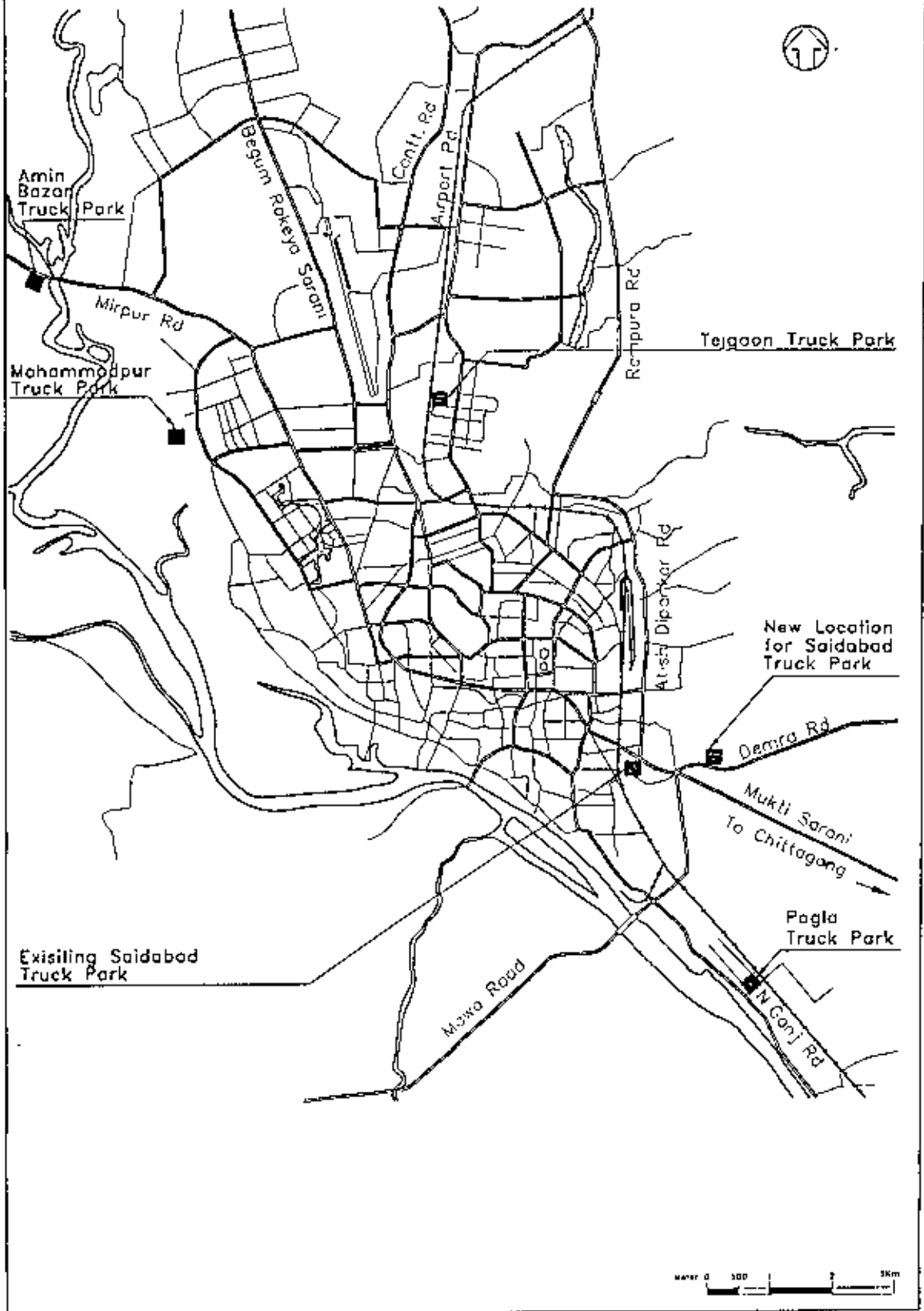


Figure B-2.1 : Selected five high priority sites for Truck Depots/Parks by DUTP-II

Source : Dhaka Urban Transport Project-Phase II

70 D

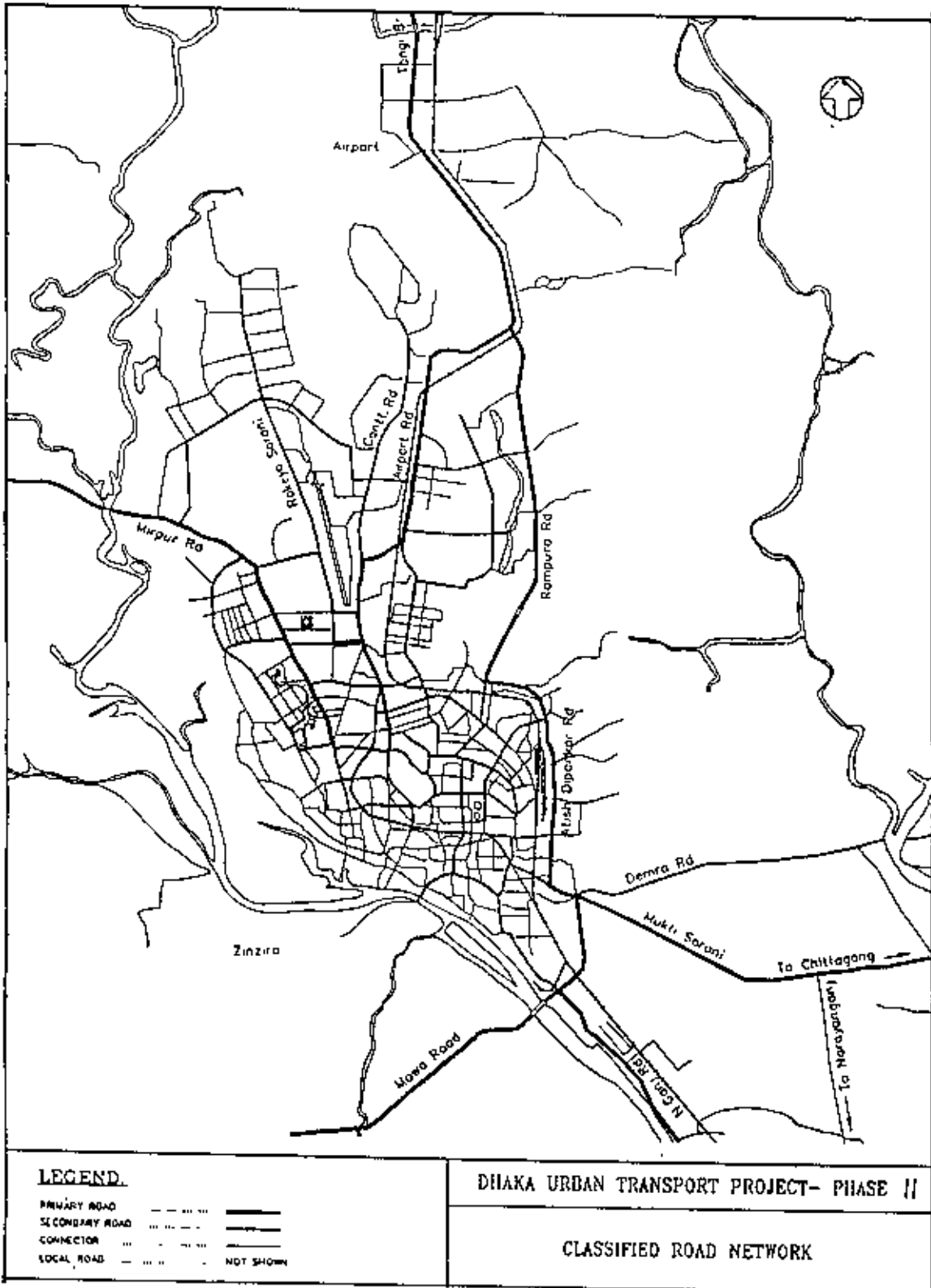
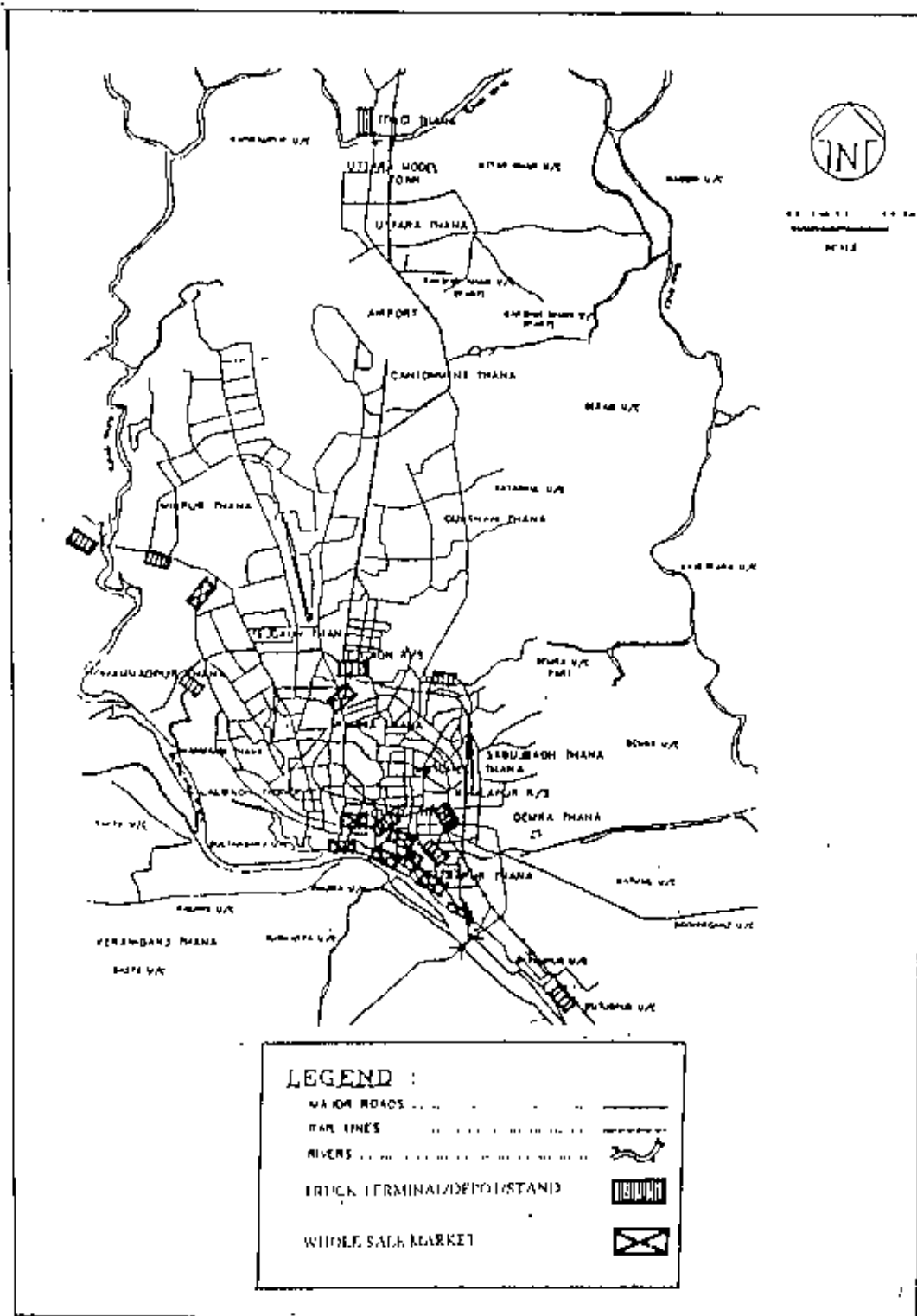


Figure B-4.1 : Road Classification for Truck Movement in Greater Dhaka.

Source : Dhaka Urban Transport Project-Phase II



**Figure B-4.2: Existing Loading & Unloading Centres of the main Truck Terminals/Stands in Greater Dhaka.**  
 Source : Dhaka Urban Transport Project-Phase II

# RAJUK JURISDICTION AREA

Manage your corporate cash flows

ANZ Cash Management



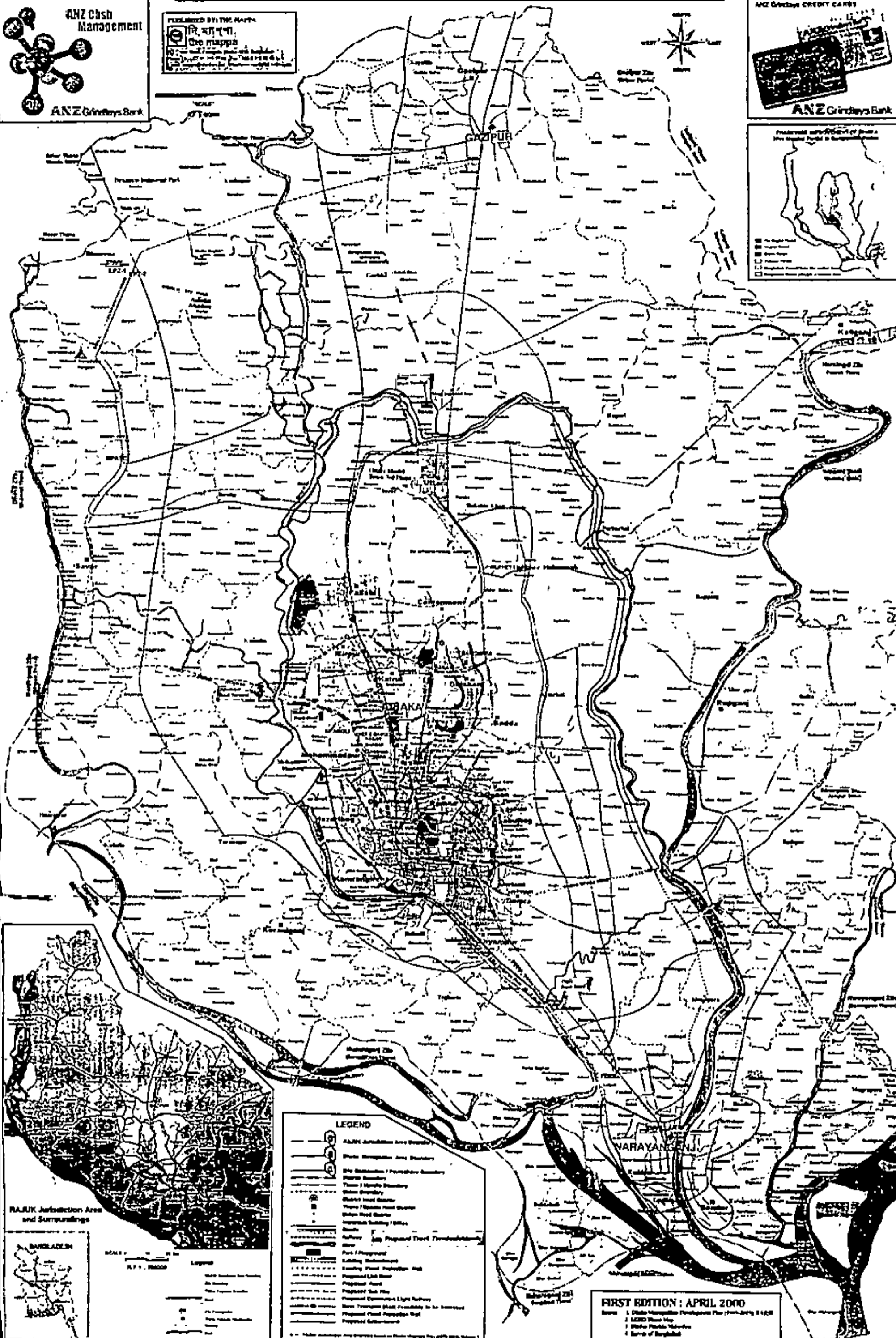
ANZ Grindlays Bank

PUBLISHED BY THE MAPS  
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TAKE A LOAD OFF YOUR MIND AND YOUR PURSE!  
 ANZ Grindlays CREDIT CARD



ANZ Grindlays Bank



**LEGEND**

	Rajuk Jurisdiction Area Boundary
	Water Drainage Area Boundary
	Major Roadway / Freeway Boundary
	Three / Month Boundary
	Water Boundary
	Water Inlet Canal
	Water / Drainage Canal Outlet
	Water Head Canal
	Proposed Utility Lines
	Railway
	Proposed Third / Four Lane Roadway
	Proposed Light Railway
	Proposed Light Bus
	Proposed Road
	Proposed Bus Stop
	Proposed Expressway Light Railway
	Water Transport (Plan) Available to be Constructed
	Proposed Canal / Drainage / Sewer
	Proposed Substation

**FIRST EDITION : APRIL 2000**  
 Scale : 1:50,000  
 1. Urban Map  
 2. Major Roadway  
 3. Water Body  
 4. Boundary

Figure B-5.1 : Geographical Locations and Proposed 9 Truck Terminals/ Stands in Greater Dhaka.

PHOTOGRAPIC REPRESENTATION



Plate C-3.1: Existing Tejgaon Truck Terminal



Plate C-3.2: Existing Dayagonj Truck Depot

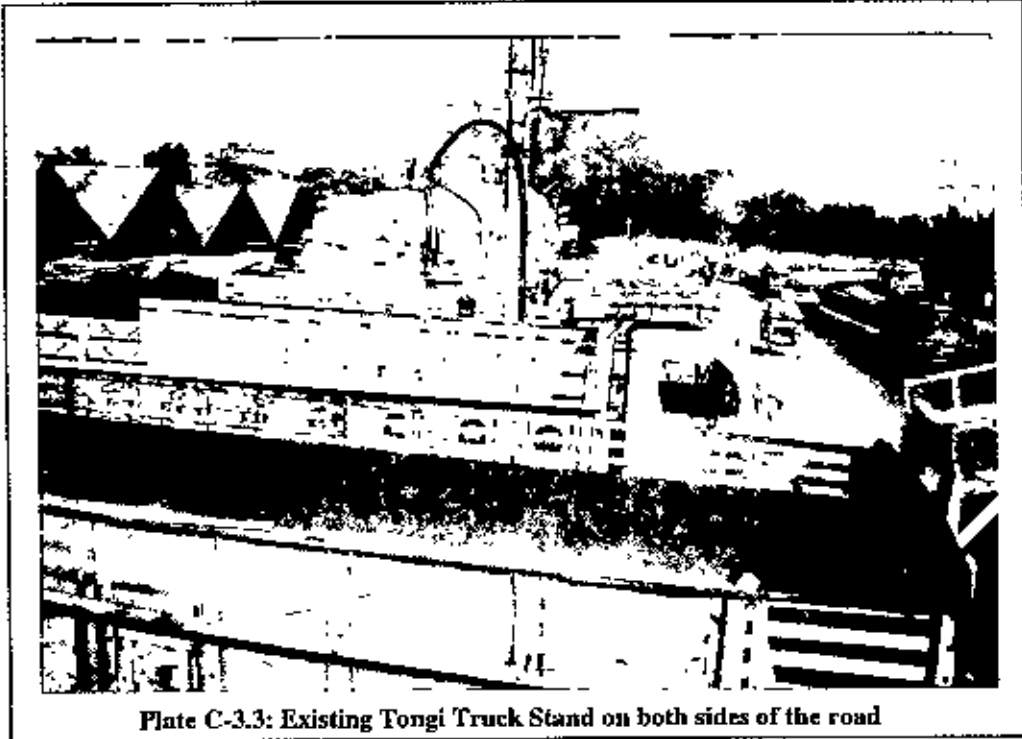


Plate C-3.3: Existing Tongi Truck Stand on both sides of the road



Plate C-3.4: Existing loading process on road side at Pagla Truck Terminal

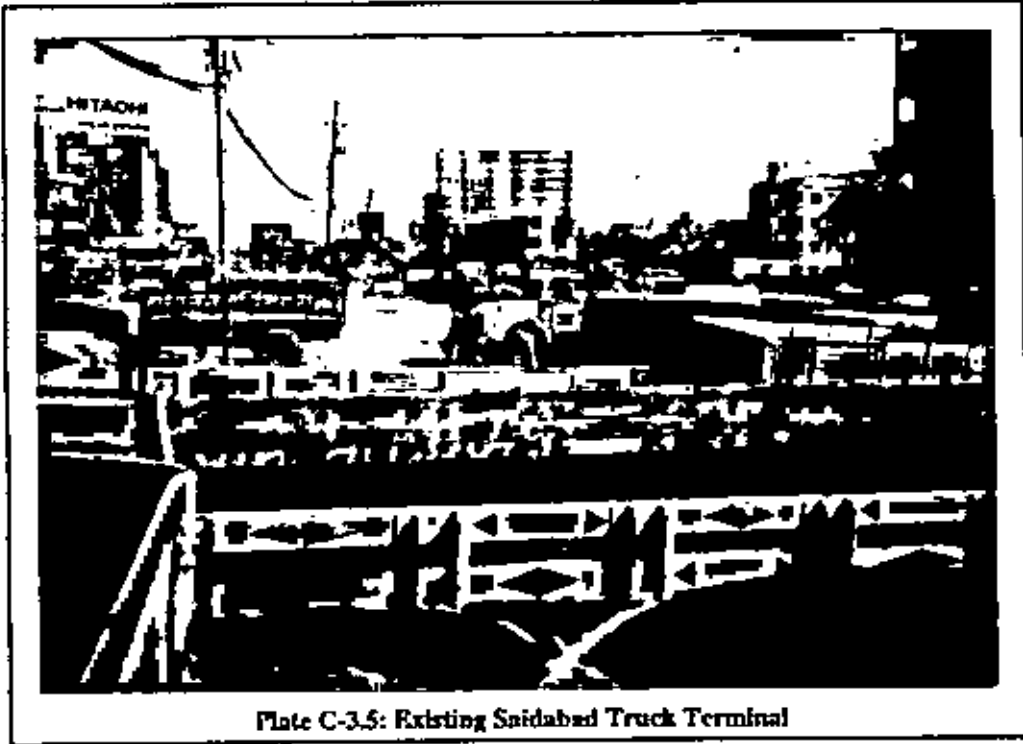
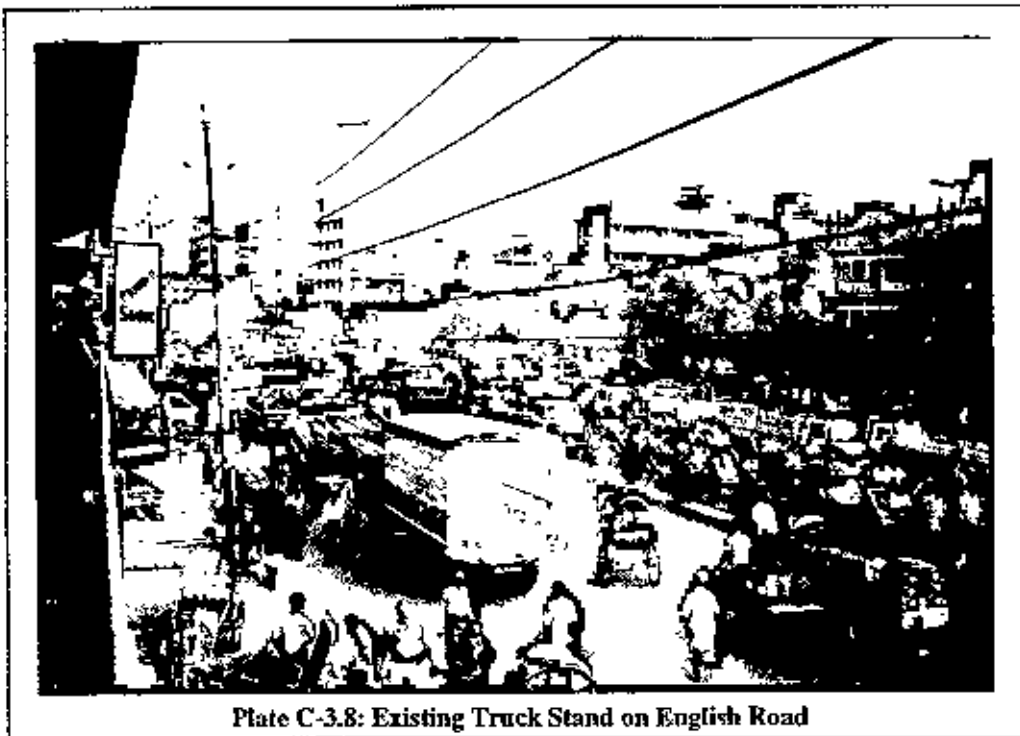
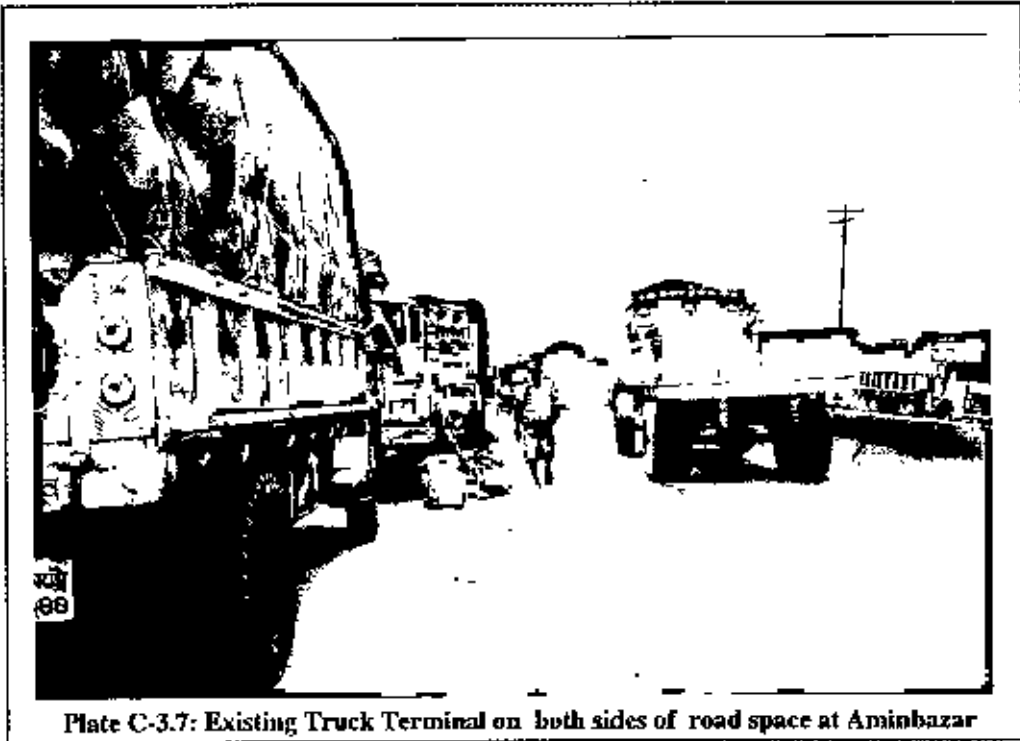


Plate C-3.5: Existing Saidabad Truck Terminal



Plate C-3.6: Existing truck stand on the road space at Mohmmadpur





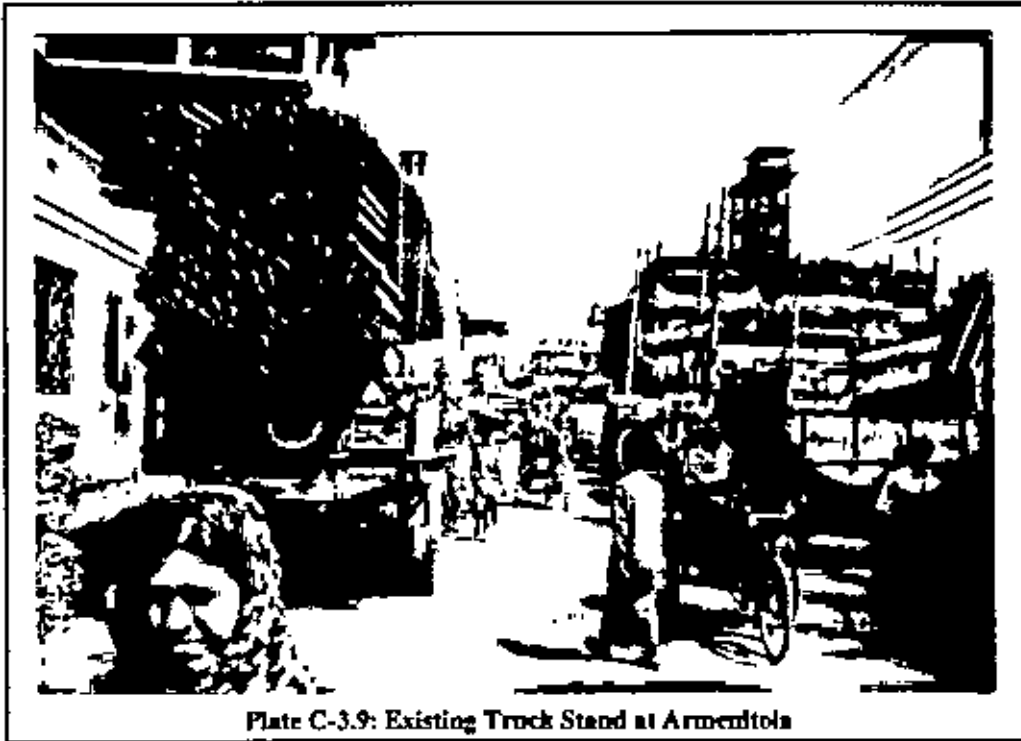


Plate C-3.9: Existing Truck Stand at Armentola

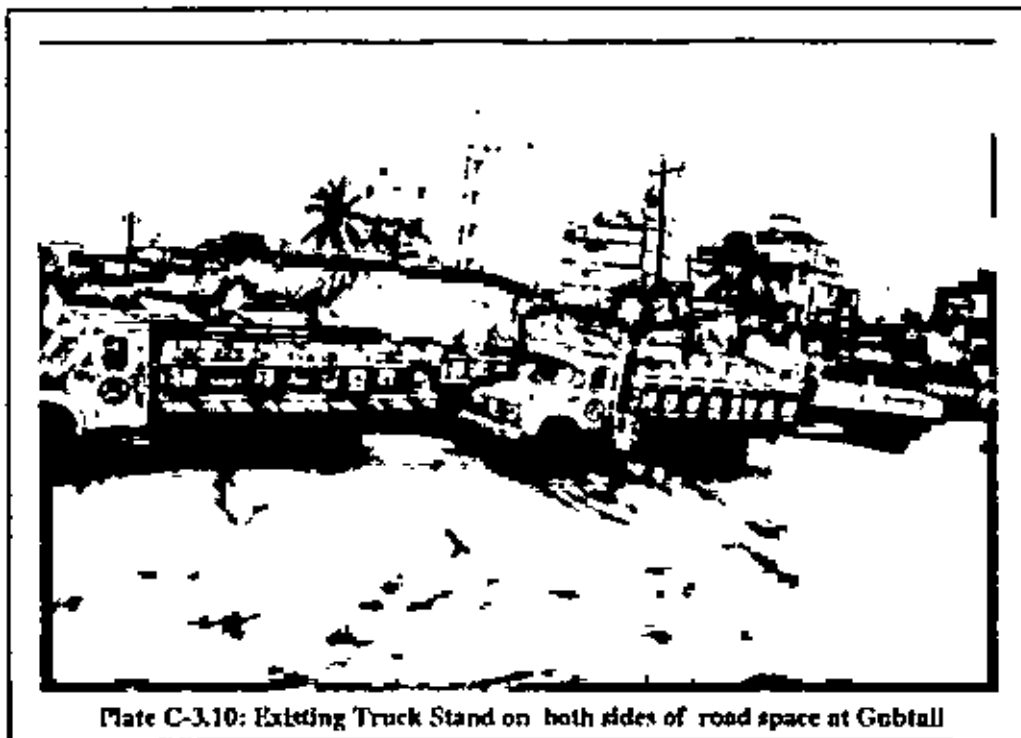


Plate C-3.10: Existing Truck Stand on both sides of road space at Gubfall

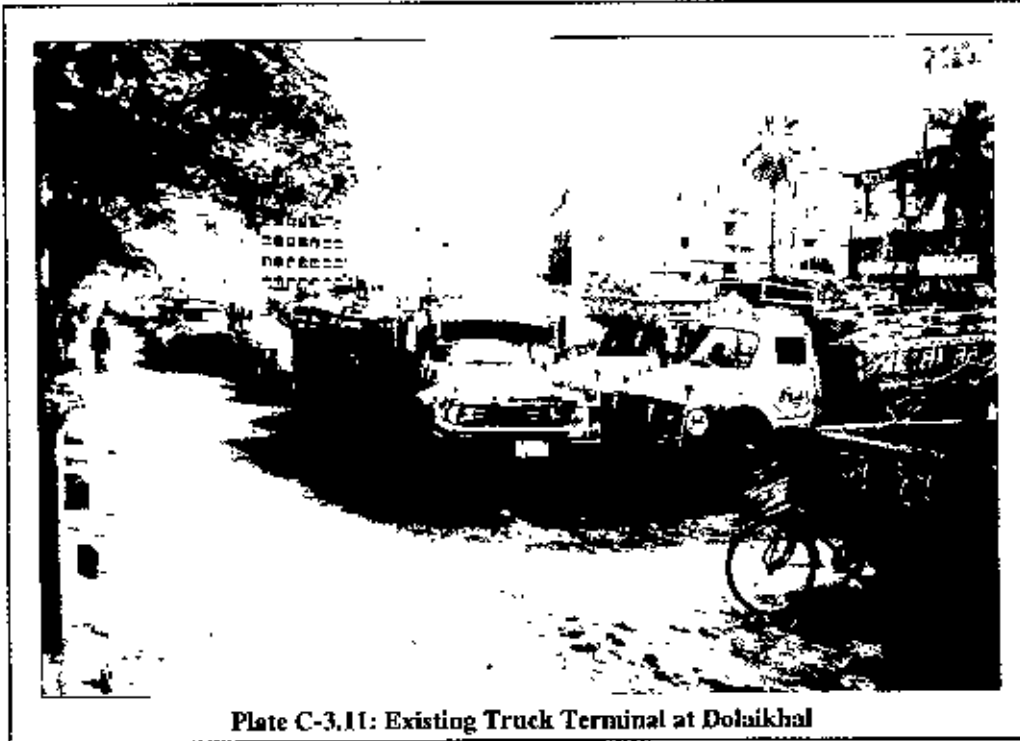
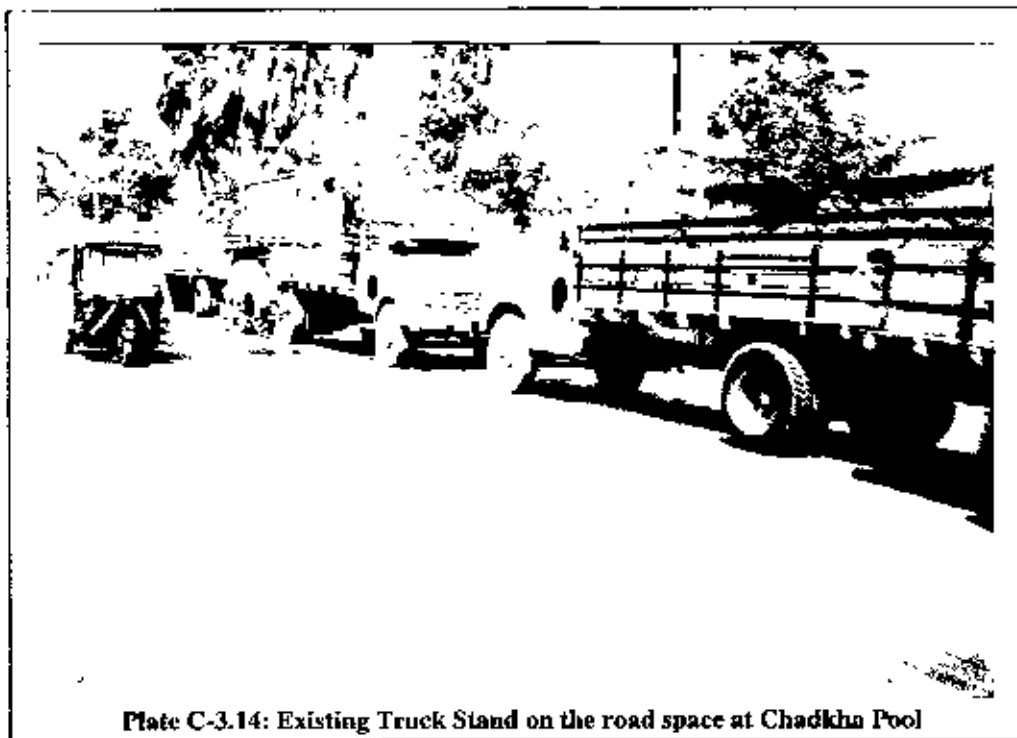
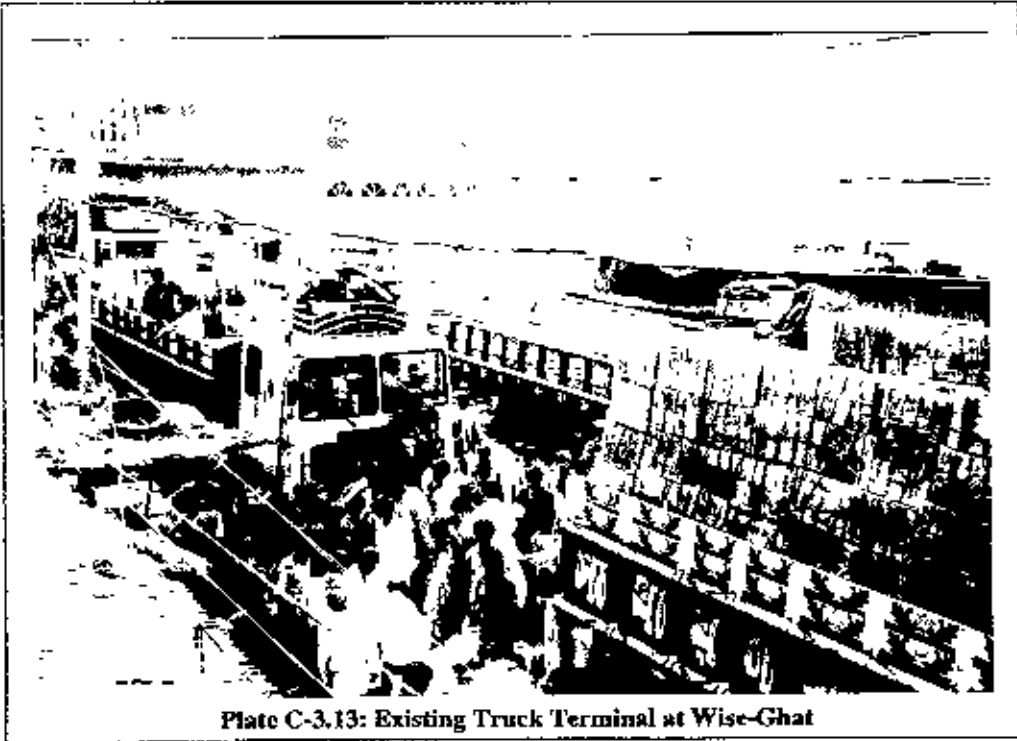
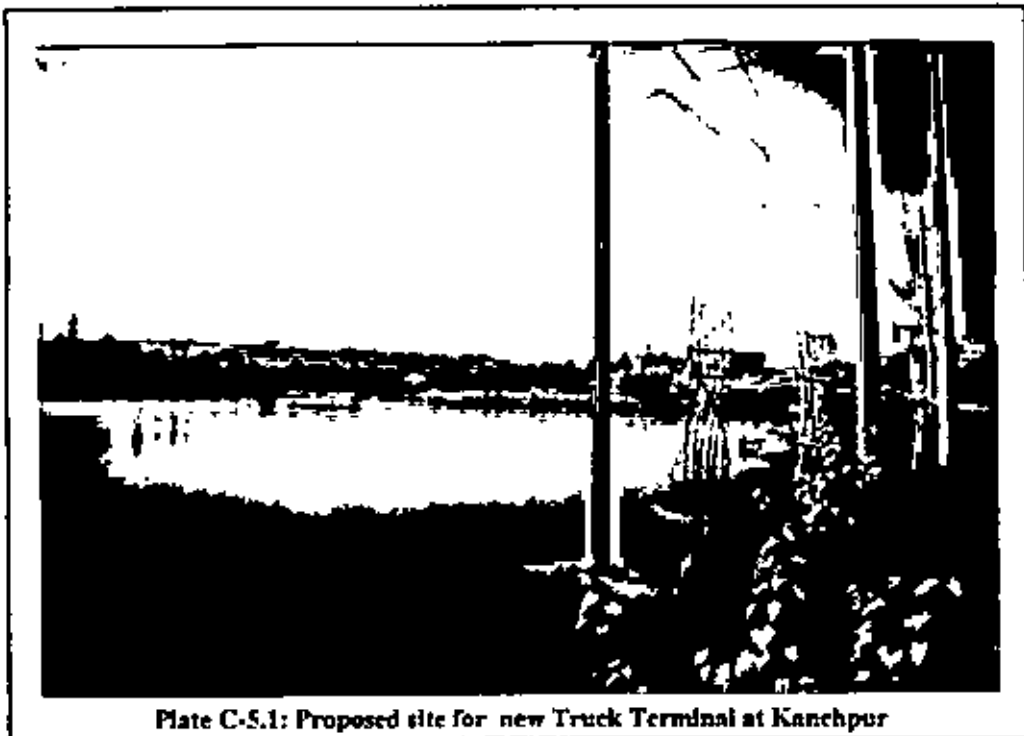
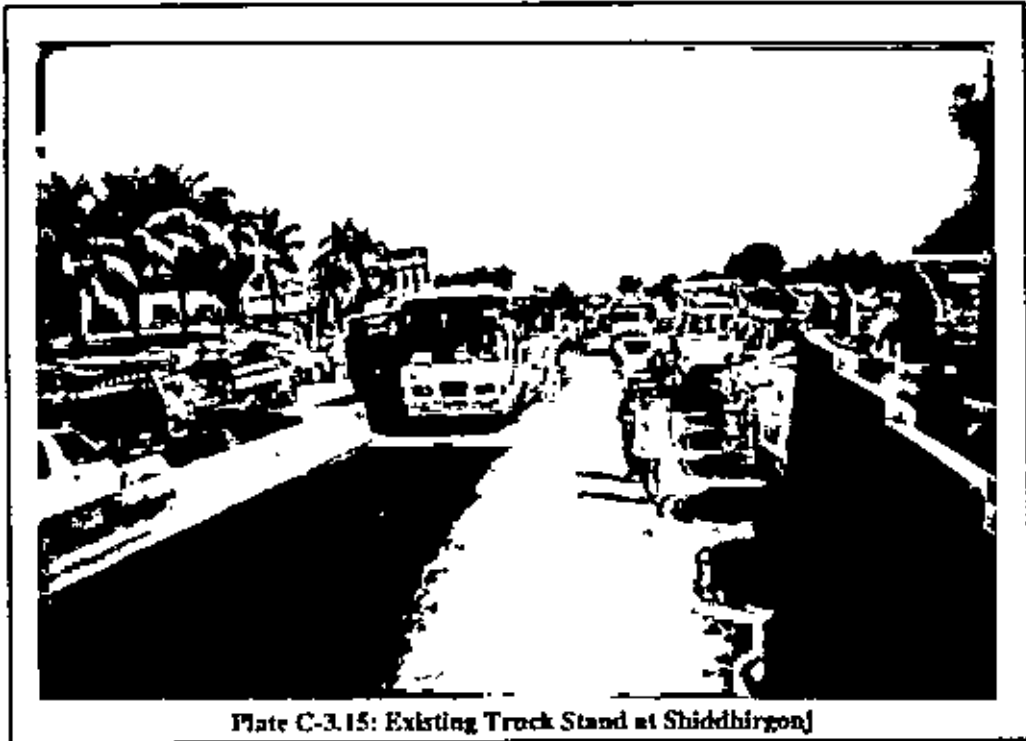


Plate C-3.11: Existing Truck Terminal at Dolaikhal



Plate C-3.12: Existing Truck Stand at Kamlapur





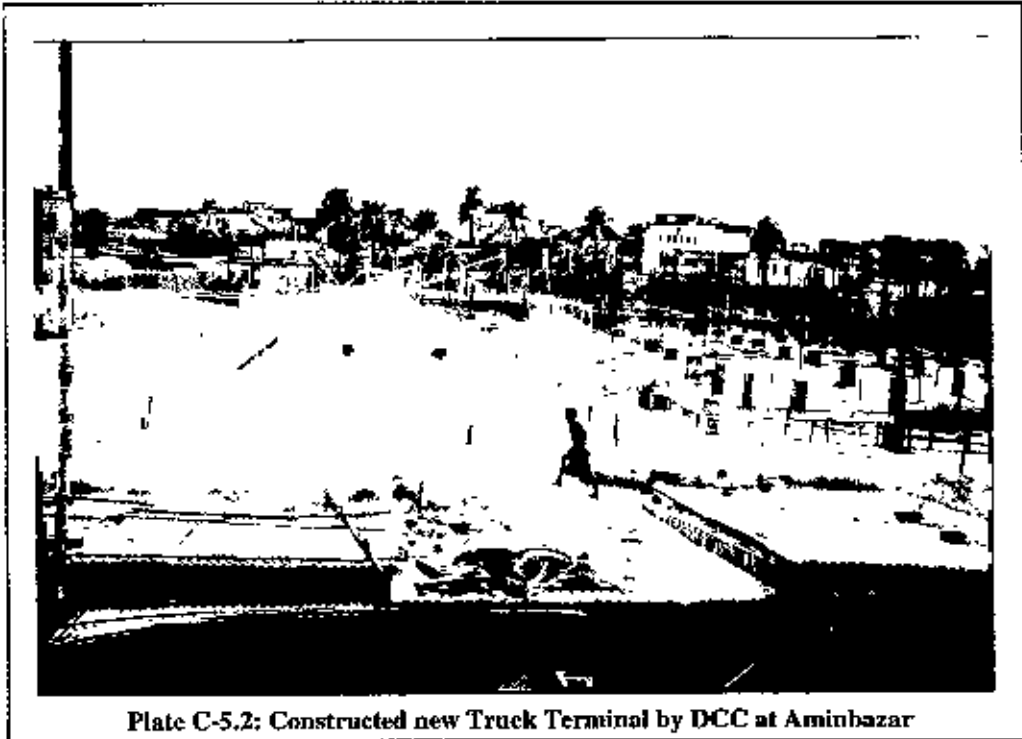


Plate C-5.2: Constructed new Truck Terminal by DCC at Aminbazar

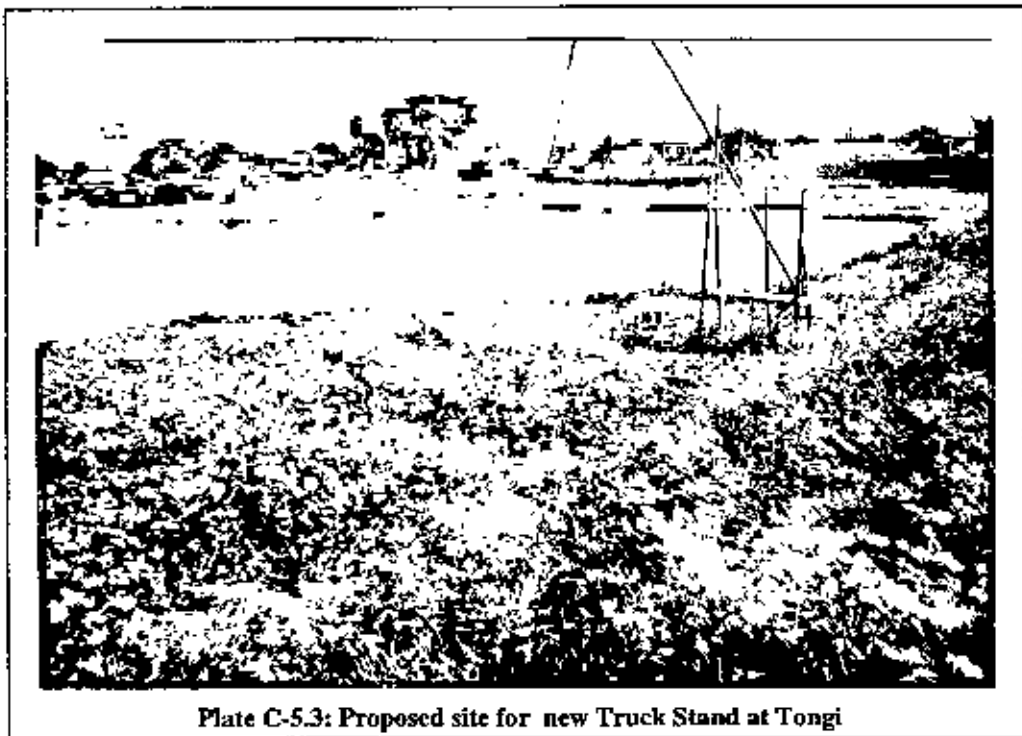


Plate C-5.3: Proposed site for new Truck Stand at Tongi

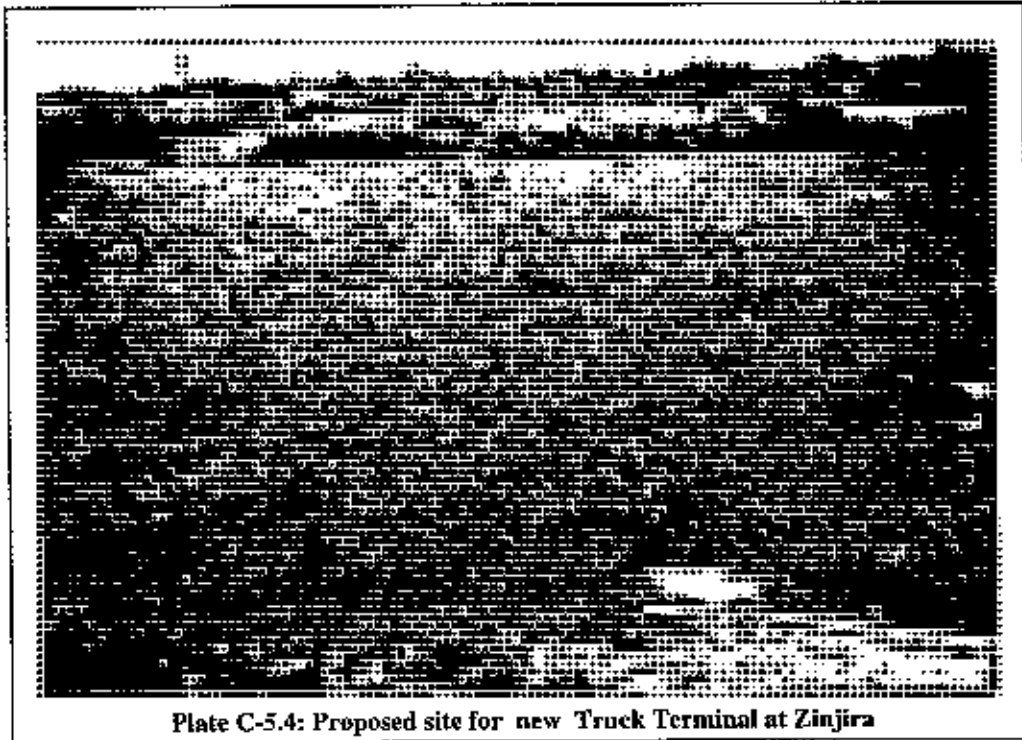


Plate C-5.4: Proposed site for new Truck Terminal at Zinjira



Plate C-5.5: Proposed site for new Truck Terminal at Tejgaon

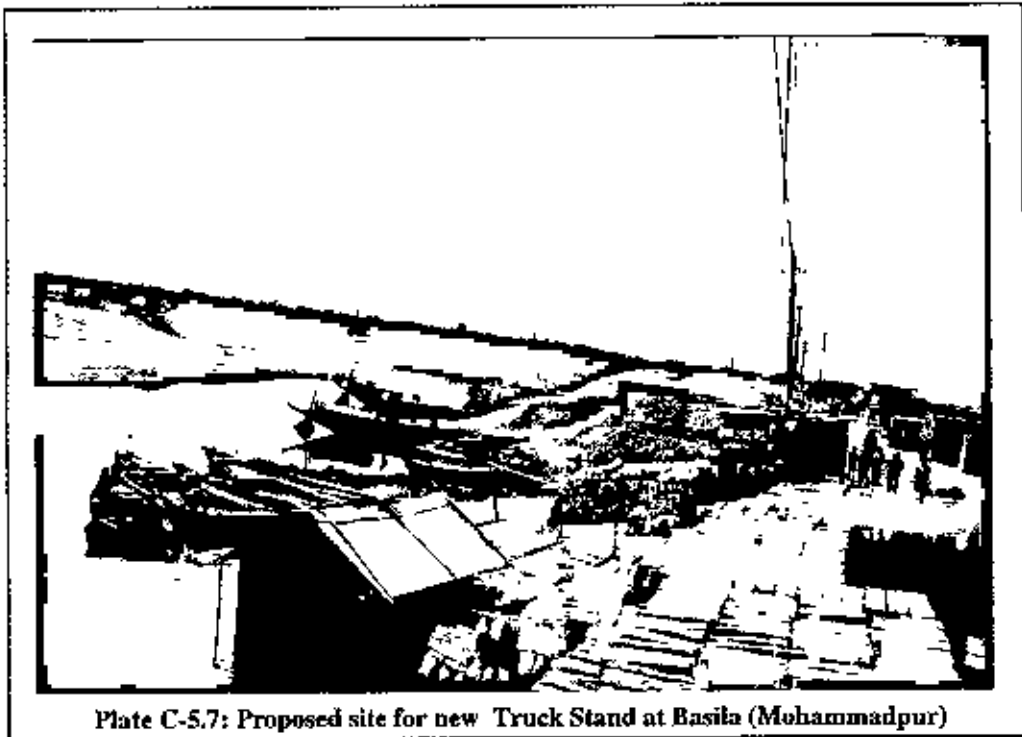
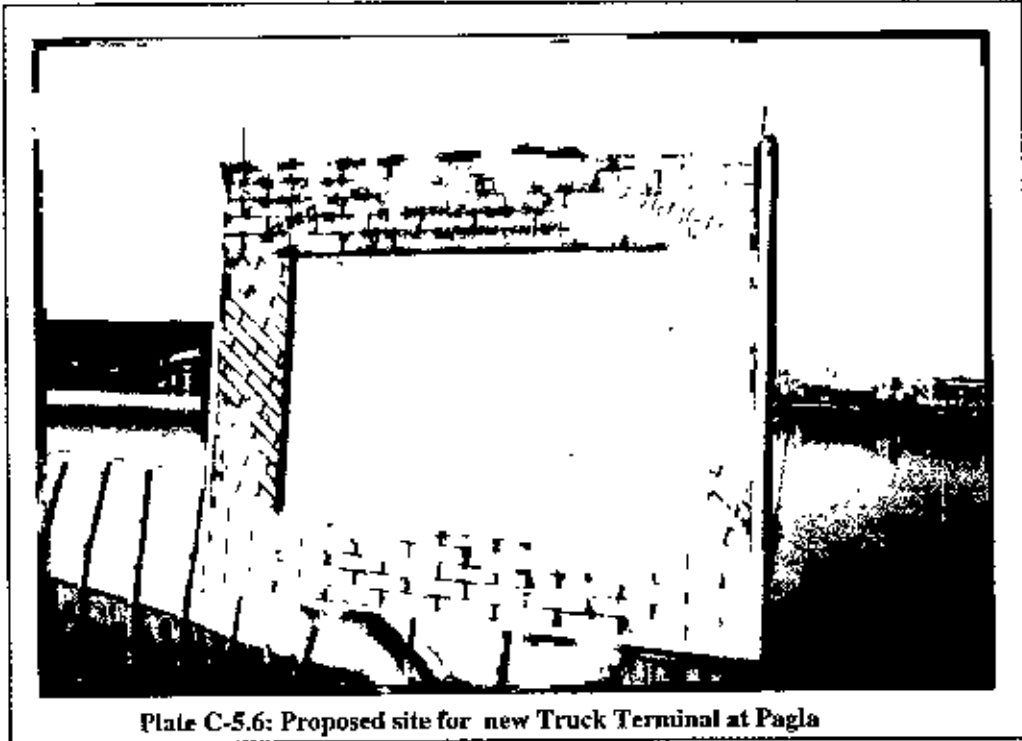






Plate C-5.8: Proposed site for new Truck Stand at Gubtali

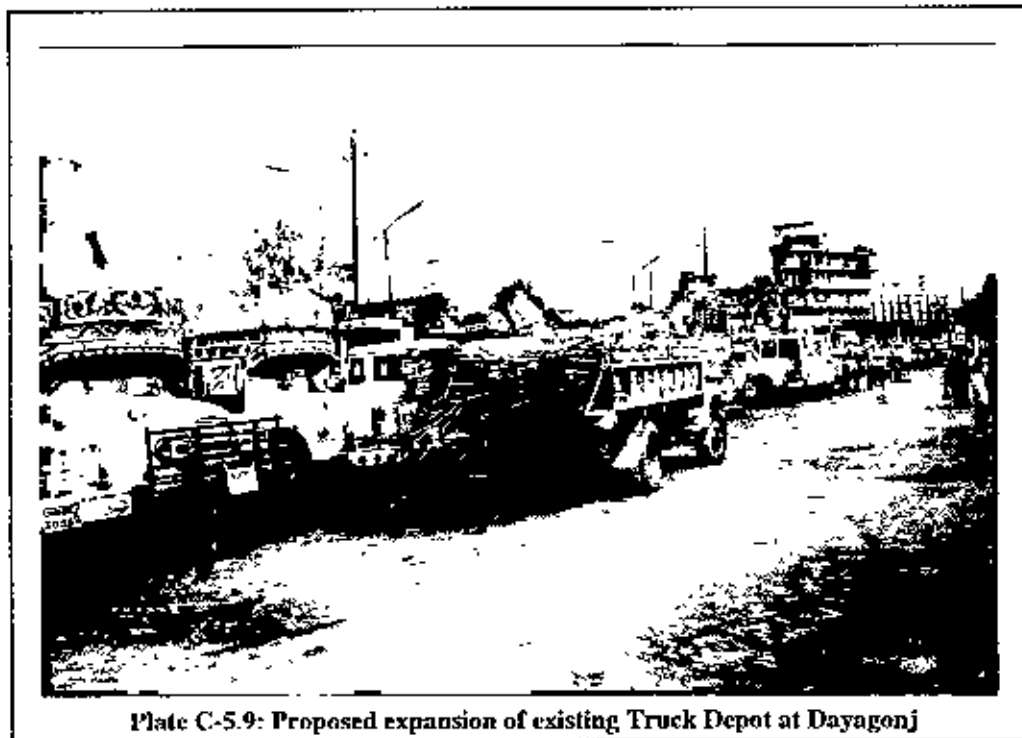
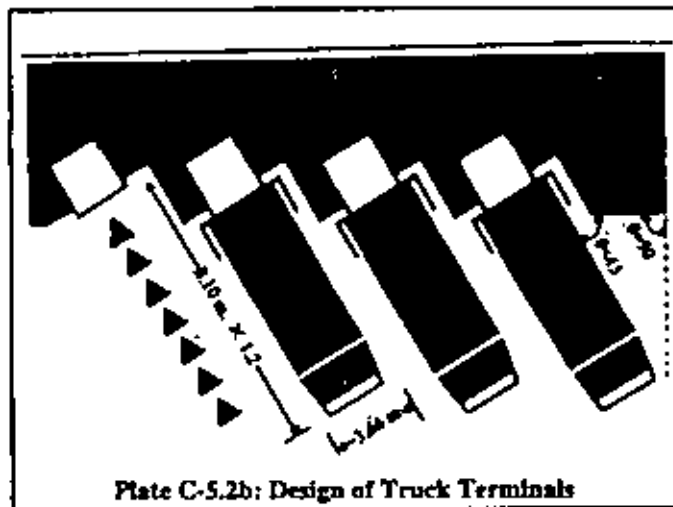


Plate C-5.9: Proposed expansion of existing Truck Depot at Dayagonj



Source : Field Survey, January 2000



Source: Time Saver Standards, Truck Terminals (Docks)

CONCEPTUAL LAYOUT PLANS REPRESENTATION

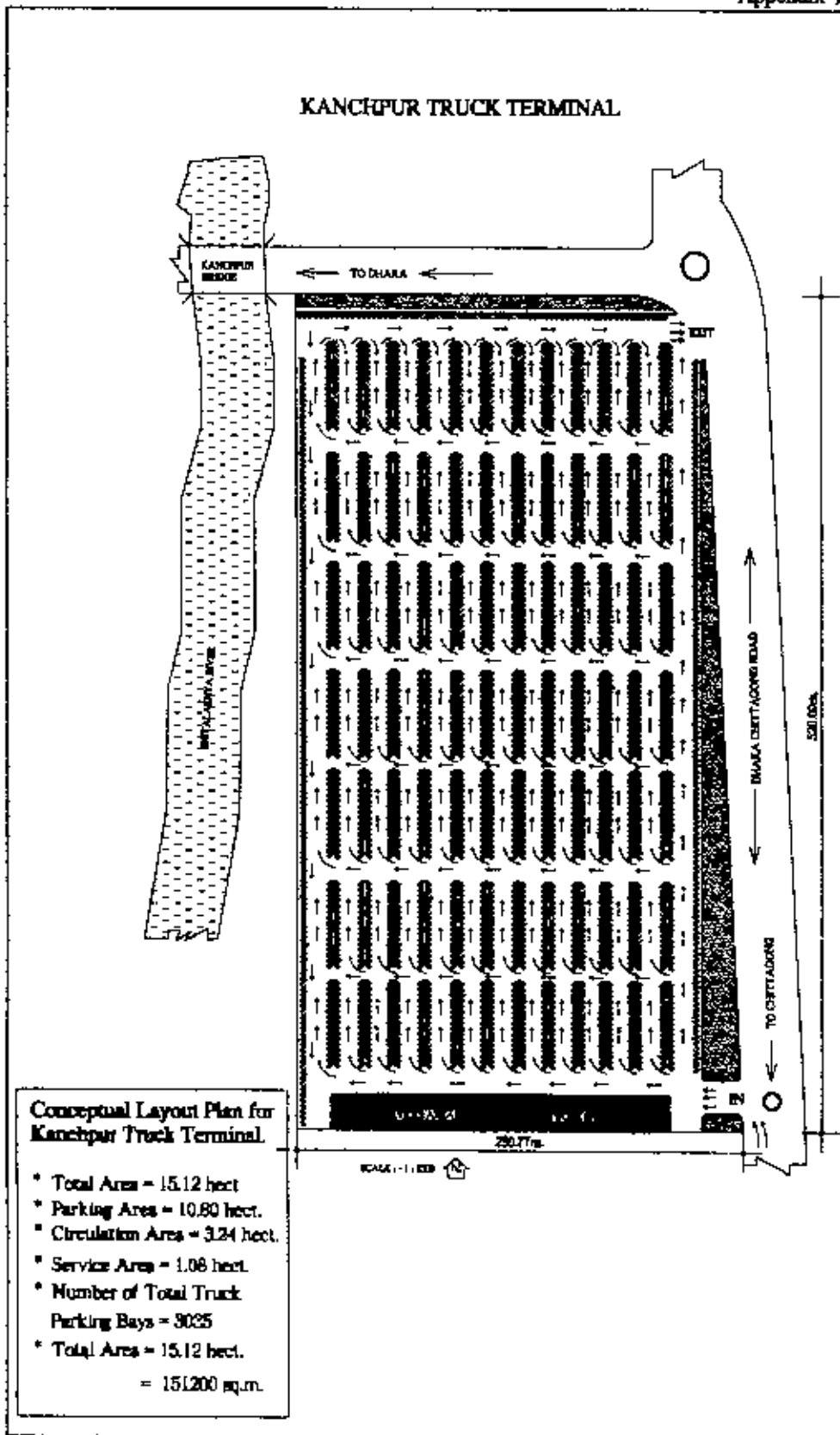


Figure D-5.1 Conceptual Layout Plan for Kanchpur Truck Terminal

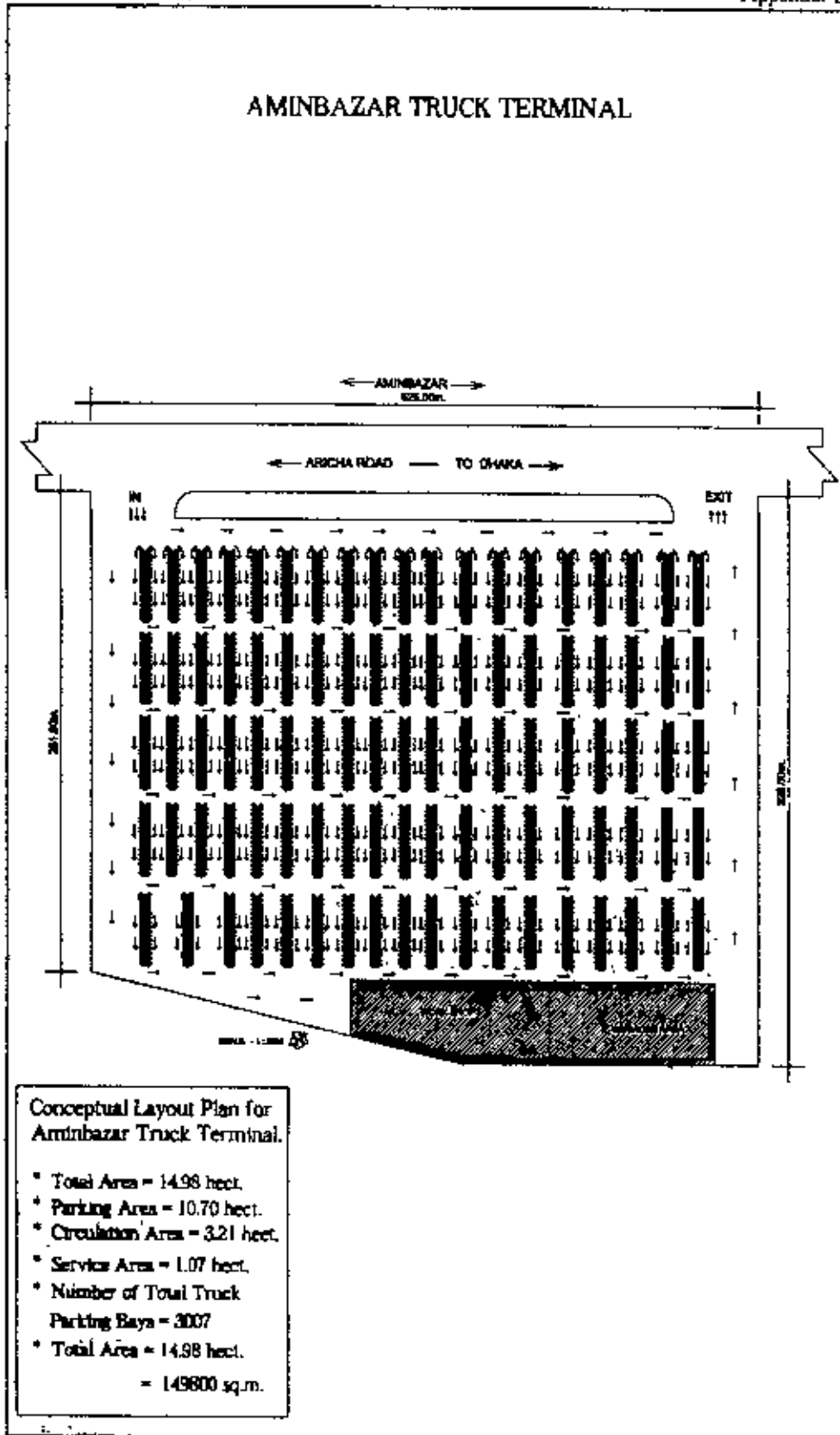


Figure D-5.2 Conceptual Layout Plan for Aminbazar Truck Terminal

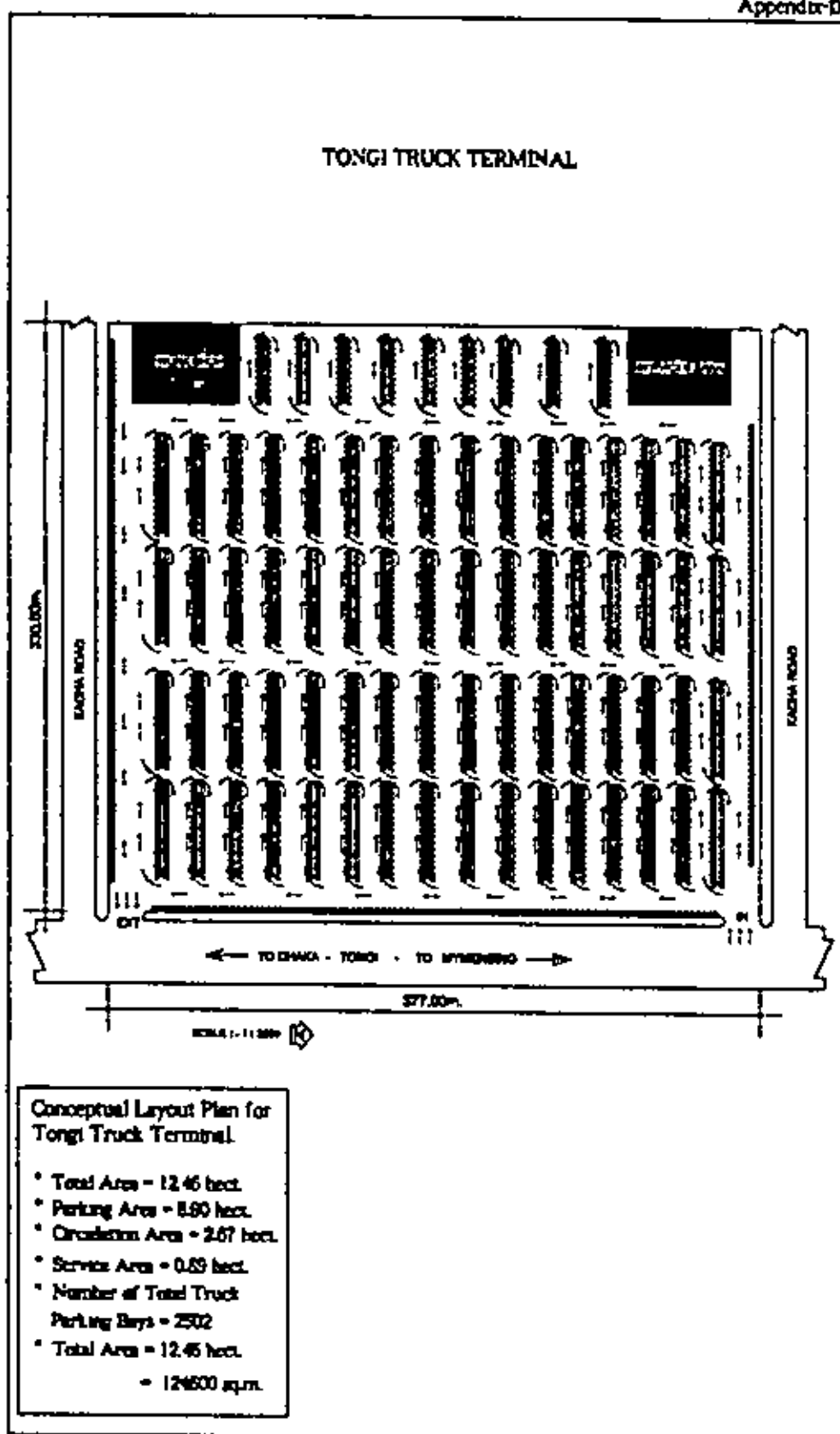


Figure D-5.3 Conceptual Layout Plan for Tongi Truck Terminal

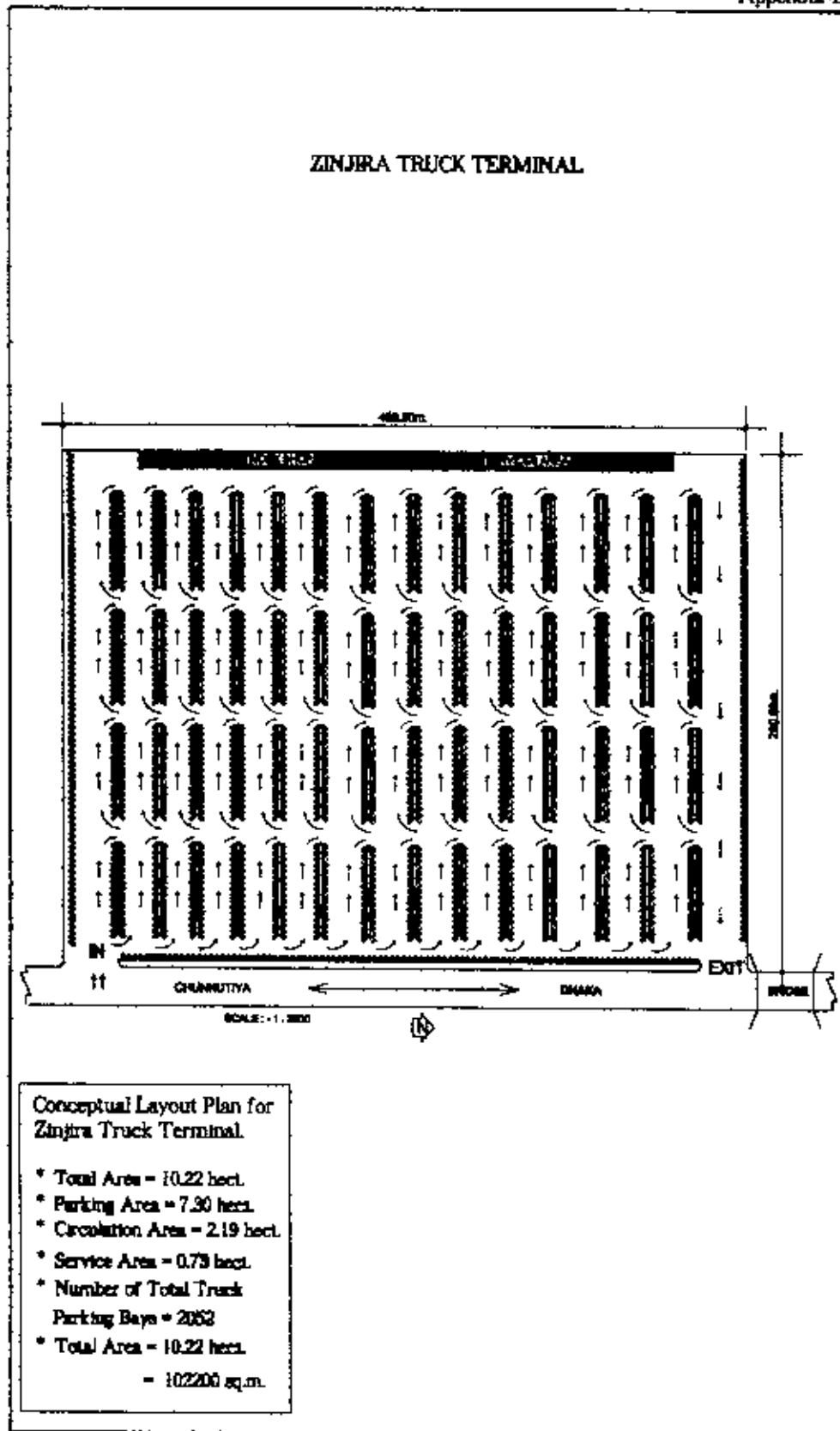


Figure D-5.4 Conceptual Layout Plan for Zinjira Truck Terminal

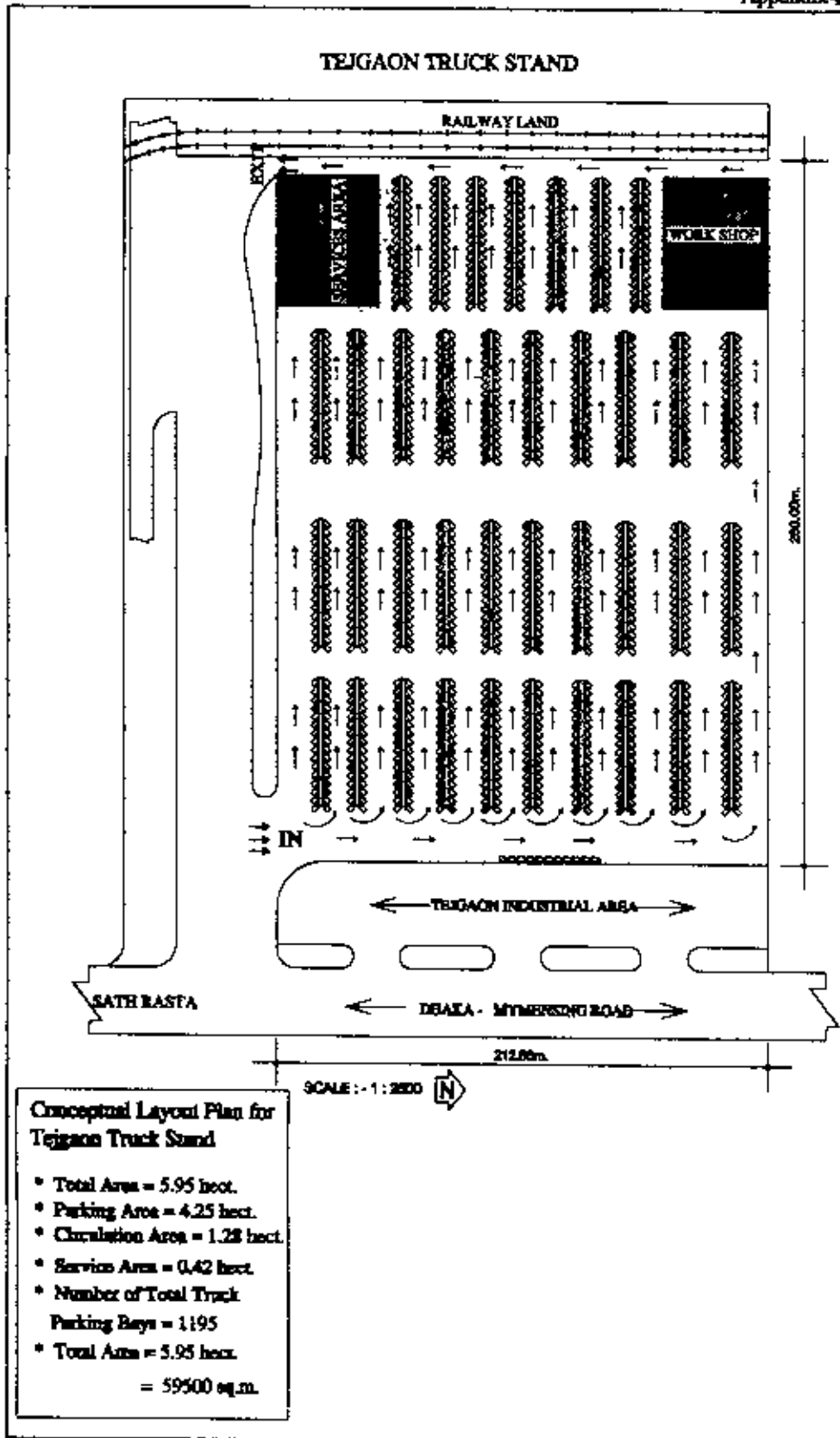


Figure D-5.5 Conceptual Layout Plan for Tejgaon Truck Terminal



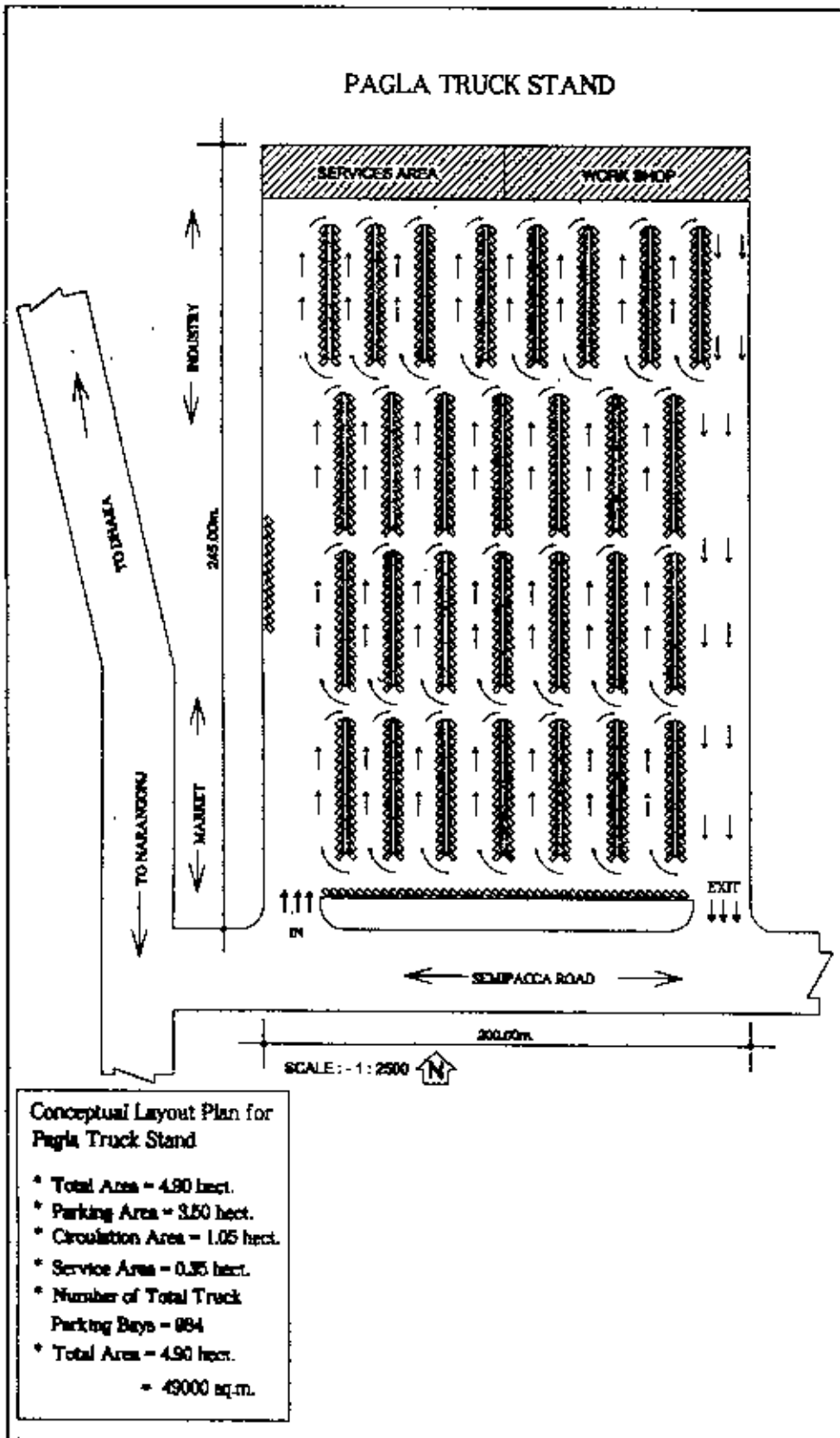


Figure D-5.6 Conceptual Layout Plan for Pagla Truck Terminal

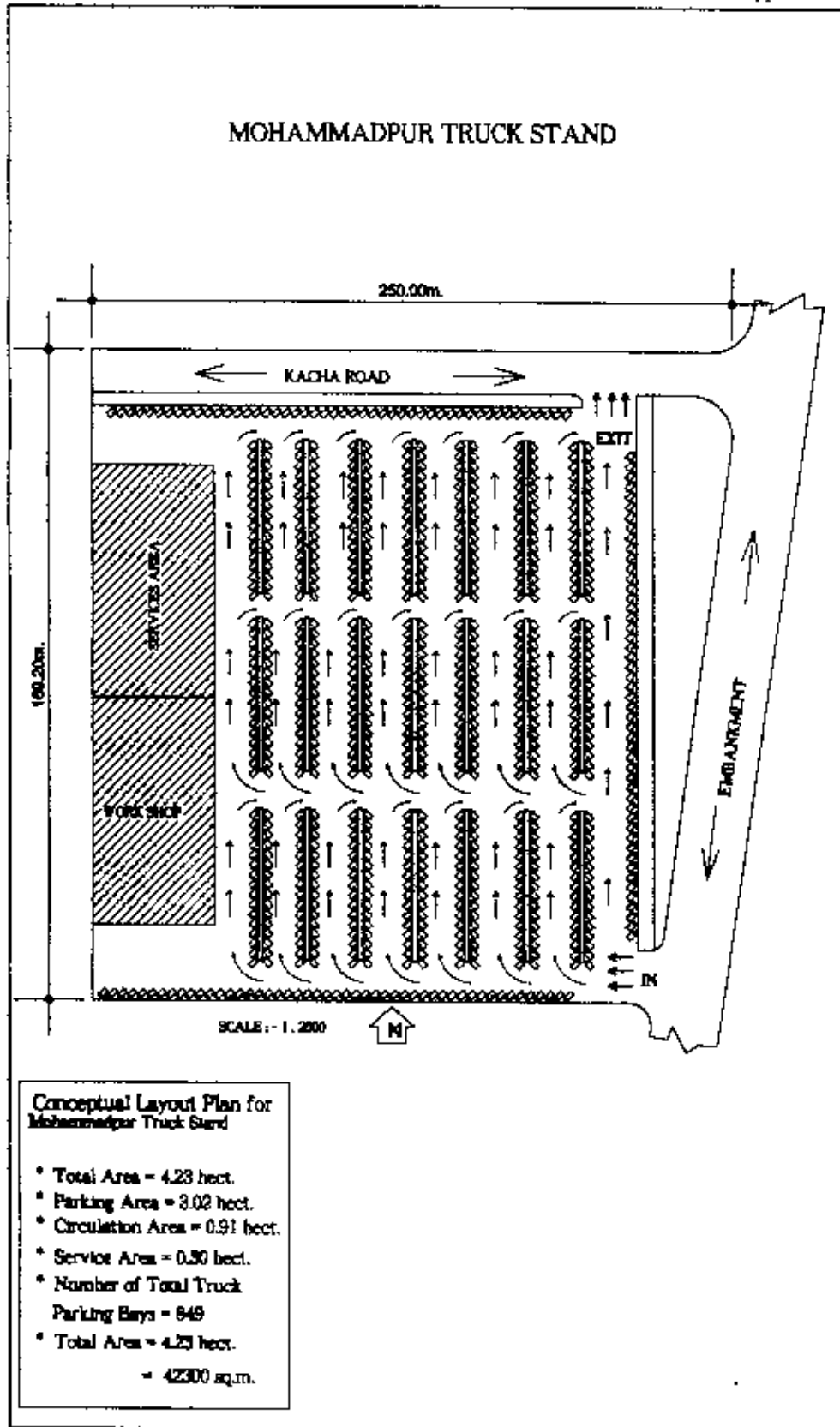


Figure D-5.7 Conceptual Layout Plan for Mohammadpur Truck Terminal

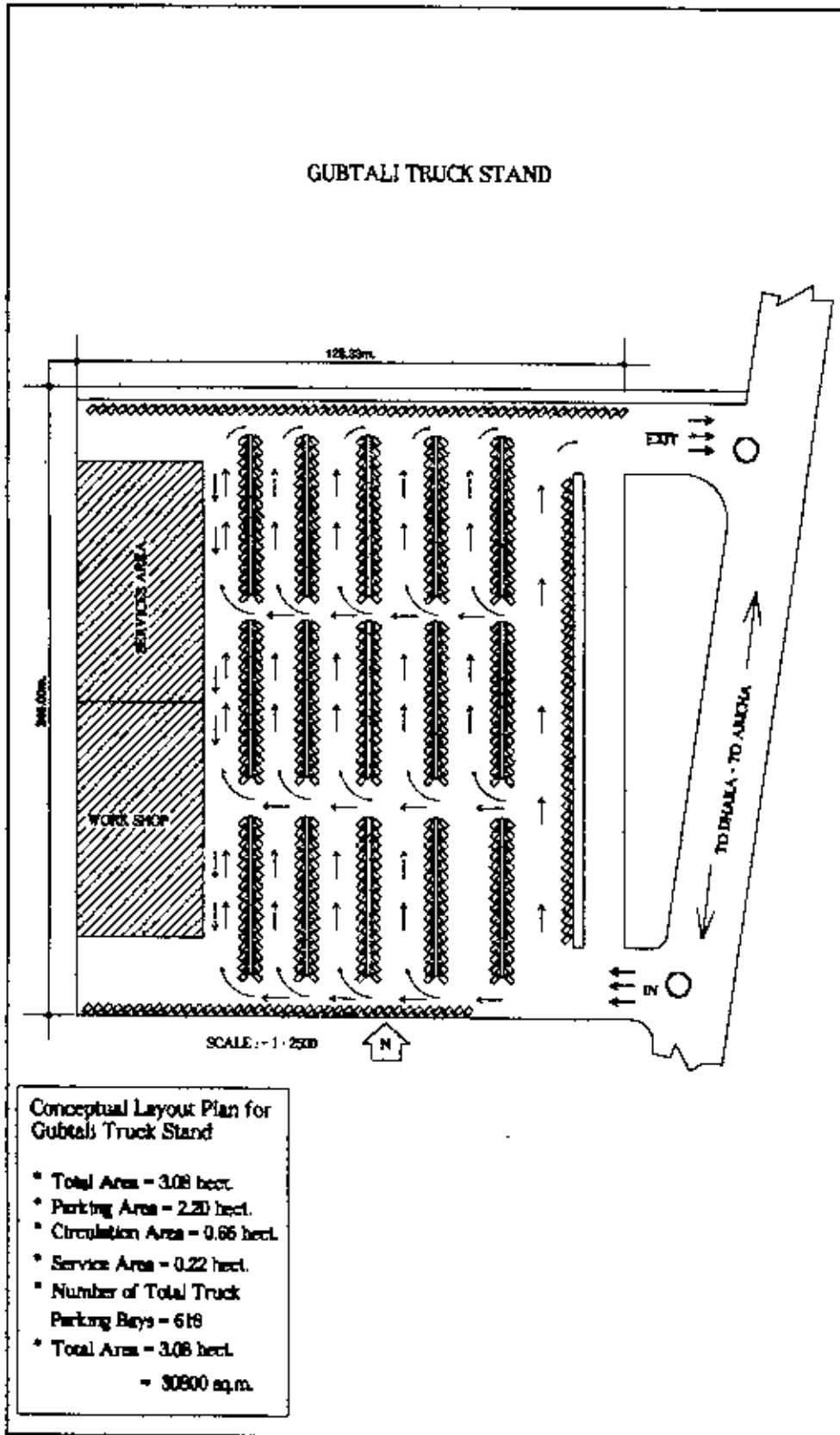


Figure D-5.8 Conceptual Layout Plan for Gubtali Truck Terminal

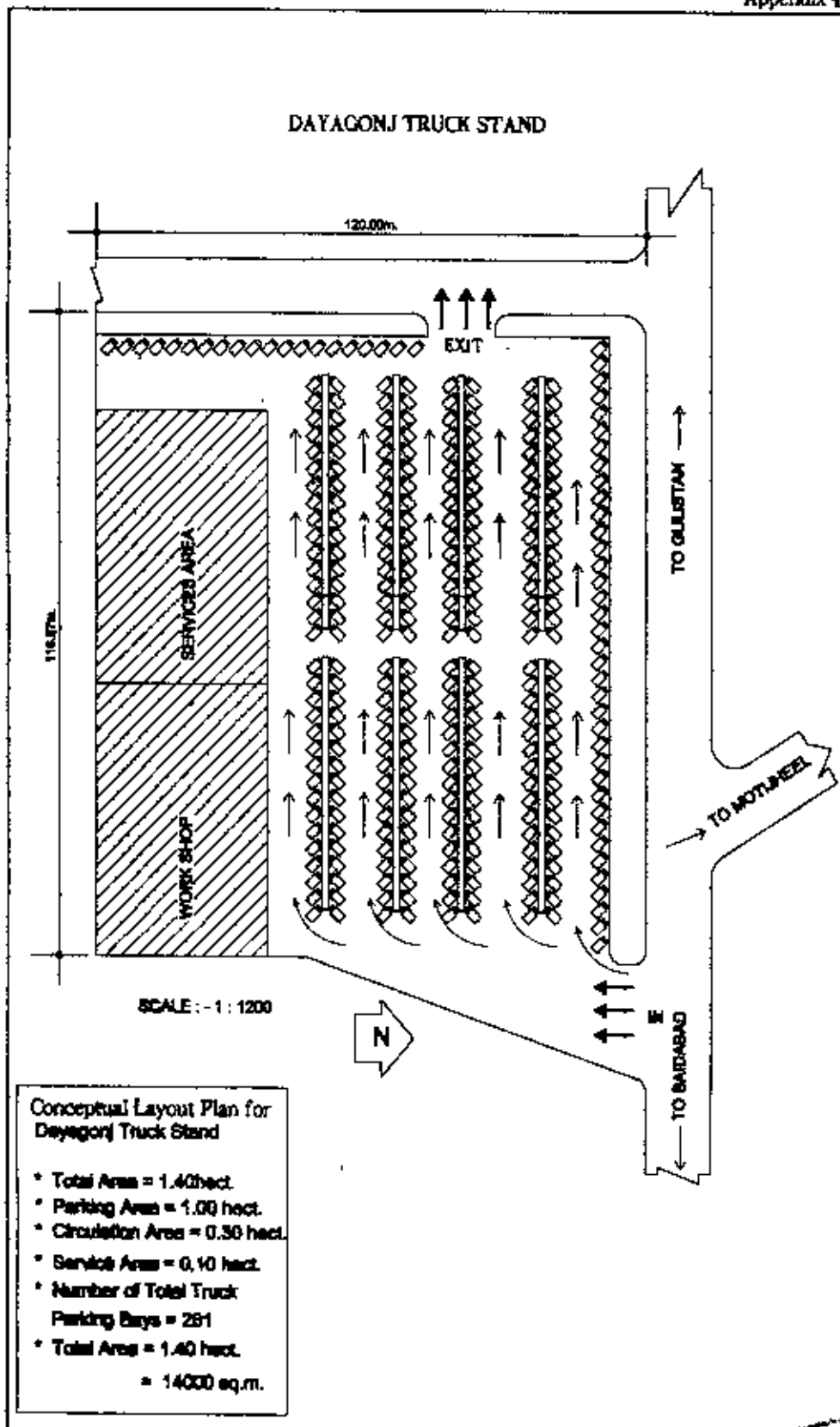


Figure D-5.9 Conceptual Layout Plan for Dayagonj Truck Terminal

