

第4章 附 録

4-1 面会者リスト

(バングラディッシュ国政府)

Planning Commission
Ministry of Finance & Planning

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Member (Infrastructure)
2. Mr. Azizul Haque,
Section Chief (Transport)
3. Mr. Ks. Mainuddin Ahmed,
Deputy Chief (Transport)

External Resources Division
Ministry of Finance & Planning

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Joint Secretary
2. Mr. M. Saiful Haque,
Deputy Chief

Railways, Roads, Highways and
Road Transport Division,
Ministry of Communication

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Secretary

Bangladesh Road Transport
Corporation

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Khalequzzaman,
Chairman

Dhaka Municipal Corporation

1. Mr. Wakab,
Chief Engineer

Dhaka Improvement Trust

1. Mr. M.N. Alam,
Town Planner

(在バングラディッシュ日本人関係者)

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新野書記官

遠藤理事官

沢内派遣員

JICA ダッカ事務所

村越所長

石田職員

JICA 専門家 (BRTC)

影山専門家

4-2 調査関連資料リスト(国内収集)

No	資料名	発行年	発行者	備考
1	Dacca Metropolitan Area Integrated Urban Development Project (Final Report, Volume I. Summary)	1981, 3	Government of Bangladesh, Asian Development Bank, United Nations Development Programme	
2	Proposal for Terms of Reference for Comprehensive Transportation Study of Dacca Metropolitan Area	1980, 9	Japan Transportation Consultants Association	
3	パングラディッシュ国ダッカ市バスタ ニミナル建設計画予備調査報告書	1980, 8	海外運輸コンサルタンツ協会	
4	東パキスタンダッカ市都市計画予備 調査報告書	1966, 10	OTCA	JICA 図書館蔵
5	ジャムナ河架橋計画調査報告書	1976, 8	JICA	"
6	Bangladesh Transport Study	1974, 4	パシフィックコンサルタンツ インターナショナル	" Part 2 (3巻), Part 4 (2巻) Part 5 Part 6
7	パングラディッシュ	1976, 6	日本貿易振興会	JICA 図書館蔵

No.	資料名	発行年	発行者	備考
8	経済協力評価調査報告書 パングラディシ	1976, 3	日本シオス協会	JICA 図書館蔵
9	パングラディシ 経済開発計画基礎 調査	1973, 3	国際開発センター	"
10	Population of Bangladesh	1981, 10	United Nations	"
11	Statistical Year Book of Bangladesh	1980	Ministry of Planning	"
12	The Second Five-Year Plan of Bangladesh		Mistafizur Rahman	
13	Knowledge Use (1980)			
14	Report on Quality Research (1981)			
15	Report on Quality Research (1982)			
16	Report on Quality Research (1983)			
17	Report on Quality Research (1984)			
18	Report on Quality Research (1985)			

1-7 1980-1985 (1985)

調査関連資料リスト(現地収集)

No	資料名	発行年	発行者	備考
1	Low-Cost Transportation in Asia	1982	International Development Research Centre	
2	Development Planning in Bangladesh	1979	University Press Limited	
3	Transport And Communication	1980, 5	Planning Commission	Draft Second - Five Year Planの一部
4	Economic Review 1980 - 81	1982, 6	"	
5	Land Reform in Bangladesh		Dr. A. Alim	
6	Geographical Influence on the Social Life of Bangladesh	1981	Ayesha Azim	
7	Procedure for Processing of Development Projects	1982, 7	Planning Commission	
8	Dacca Guide Map			
9	Functions and Structure of Bangladesh Planning Commission	1982, 11	Planning Commission	

4-3 要請状



From : M. Saiful Haque,
Deputy Chief.

External Resources Division
Ministry of Finance
Sheer-e-Bangla Nagar
Dacca-7

ERD/JAP-II/29/81/

Date. 29-9-81.

D.O. No.

Dear Mr. Niino,

I write to inform you that the Government of the People's Republic of Bangladesh has, in view of the present traffic chaos and transportation inadequacy in the City of Dacca, decided to undertake a comprehensive transportation study for the Greater Dacca Metropolitan Area. The objective is to provide a reasonably efficient transportation arrangement for greater Dacca City having a population of about 3.5 million at present which is expected to be over 7.0 million by 2000 A.D.

In this connection it is stated that undertaking of the proposed study has been indicated in the Second Five Year Plan and necessary ADP provision will be made accordingly. It may be mentioned here that on request of the Ministry of Railways, Roads, Highways & Road Transport, M/s. Japan Transport Consultant Association conducted preliminary study and prepared a Preliminary Survey Report in September, 1980 on the project. In that report JICA while recommending urgent necessity for comprehensive transportation study for Greater Dacca City has indicated that JICA would be interested to extend necessary assistance for this study.

We should be extremely grateful if you will kindly move your authorities concerned for undertaking a feasibility study for the above mentioned project under Technical Assistance Programme of JICA and communicate your Government's reaction at your earliest convenience. Should you require any further information in this regard we should be glad to furnish the same.

Yours sincerely,

(M. Saiful Haque)

Mr. K. Niino,
First Secretary,
Embassy of Japan,
1, Shantinagar, Dacca.



From : M. Saiful Haque,
Deputy Chief.

Ministry of Finance
External Resources Division
Sher-e-Bangla Nagar
Dacca-7

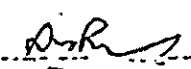
O. No. ERD/JAP-II/29/81/60

Date. 18-3-1982.

Dear Mr. Niino,

Please refer to my letter of even number dated 29.9.1981 regarding our request for a Comprehensive Transportation Study for Greater Dacca Metropolitan Area. It may be mentioned here that the Asian Development Bank, United Nations Development Programme and Japan Transport Consultants Association have studied Dacca Metropolitan Transportation System and prepared preliminary reports which are enclosed herewith for information and reference at your end. I would now request you to kindly move your Government for undertaking a feasibility study of the above mentioned project under JICA Technical Assistance Programme.

Your early reply in the matter will be highly appreciated.


(M. Saiful Haque)

Mr. K. Niino,
1st Secretary,
Embassy of Japan,
House No.110, Road No.70,
Banani, Dacca.

Sh. Motuiddin Ahmed
Dy. Chief
Planning Commission
Government of the People's
Republic of Bangladesh

1. SERIAL NUMBER OF THE PROJECT :
2. NAME BY WHICH THE PROJECT WILL BE KNOWN : **COMPREHENSIVE TRANSPORTATION STUDY FOR THE GREATER Dacca CITY.**

3. ADMINISTRATIVE AUTHORITIES

- (a) Sponsoring Organisation : Transport Survey Section, Planning Commission, Government of the People's Republic of Bangladesh.
- (b) Ministry Concerned : Ministry of Finance & Planning, Planning Division, Government of the People's Republic of Bangladesh.

4. COST AND PERIOD

- (a) Total Estimated Cost (in Taka) of
- (i) Survey : Total : Tk. 143.10 Lacs;
F.E.C : Tk. 119.74 Lacs;
- (ii) Project : Nil;
- (b) Estimated period of Execution : **22 Months**
- (i) Survey : Commencement : September, 1982;
Completion : June, 1984;
- (ii) Project : Nil;

5. CENTRAL DESCRIPTION OF THE PROJECT :

Greater Dacca city including Narayanganj, Tongi, Joydebpur and Saver has a population of about 35.0 lacs in 1982. The land-use strategy Report (Dacca Metropolitan Urban Development Study for Dacca Metropolis) submitted to the CoB in 1981 indicates that, based on a conservative estimate, the population of the Greater Dacca city would be

around 70.0 lacs by 2000 A.D. Unless the land-use strategy and other measures indicated in the Report were followed, there would be eccentric concentration of population and proliferation of clumpy human settlements as Kuthal Bagan, Makhajpara, Kallyanpur etc in the Greater Dacca Area. So, to forestall such a situation and to have a disciplined use of the available land, the report as also the Policy Steering Committee of the GoB recommended adoption of the land-use strategy and implementation of eleven projects indicated in the report. One of the most important of these eleven projects was the undertaking of a comprehensive transportation study for the Greater Dacca city that would eventually lead to the provision of a satisfactory transport arrangement for the middle and the lower income people of the city. It was observed that unless a reasonably fast and cheap transport arrangement was provided, it would not be possible to disperse the population from around the city centre nor the recommended land-use strategy (North-Bound expansion of the city) could be pursued.

It is precisely with this aim in view, i.e., to support the future land-use strategy and to help deconcentration of population of the future Dacca city that the study scheme titled "Comprehensive Transportation Study for the Greater Dacca City" has been formulated. The major objective of the study would be to formulate and recommend a cost-effective transport network for the Greater Dacca city so that after its implementation, future city expansion and human settlement pattern can be guided, directed and disciplined. The study would also include a feasibility study for the introduction of electric trolley buses. The detailed analysis of work can be seen in the subsequent section of this P.C-II.

The effect of not undertaking the scheme would manifest itself in the shape of undue concentration of the population near the city centre and its periphery and growth of clumpy human settlements in the remaining areas of the Greater Dacca city. It is felt that land-use control by the DYT as recommended in the strategy report along with a satisfactory transportation arrangement would provide a more disciplined Dacca city than it will be without these measures.

6. MEANS OF IMPLEMENTATION :

(A) Agency for Execution/Operation : The Government of Bangladesh will establish an Inter Ministerial Policy Steering Committee which will provide the overall direction and policy guidance to the consultants. This committee will be headed by the Member, Transport and Communication Division, Planning Commission. The Chairman of the Committee will also act as the Project Co-ordinator.

The Executing agency will be the Transport Survey Section (TSS) of the Planning Commission. For the purpose of providing technical guidance to the consultants, the Government will establish a Technical Management Group. This Group will be headed by the Section Chief, Transport Survey Section, Planning Commission.

Representatives from different Ministries, Departments, Agencies, Institutions and Authorities, who may be considered to have an interest in, or be able to contribute to the work of the consultants, would be inducted into the Technical Management Group as member. The Section Chief, TSS, will also act as the Project Director, and will carry out the following tasks in consultation with the Project Co-ordinator :-

- i) Maintaining liason between the consultants and the different Ministries & Agencies concerned ;
- ii) Overall administration of the counter-part personnel;
- iii) Procurement of and payment for the equipment and stores necessary for the project ;
- iv) Payment of salaries to the counter-part personnel and remuneration to the local consultants ;

(B) Financing : The project is to be financed out of the Japanese Technical Assistance Grant amounting to USD 8.5 million, committed for Japan FY 1982-83. About 16% of the project cost amounting to Tk. 23.33 lacs is proposed to be provided by the GoB. The GoB grant would meet the local expenditures as office rent, stationary cost, printing etc. as detailed in the item-wise breakup of the Project cost (Annexure-I).

7. ANALYSIS OF THE WORK INVOLVED :

The study will identify the various problems and bottlenecks of the transport system of the Greater Dacca Area isolating their causes and recommending effective remedies. The project area for this study would cover the entire city area falling under the jurisdiction of the DTC (Dacca Municipal Corporation) and also include the peri-urban zones covering Savar, Joydebpur, Tongi and Narayanganj area. In course of this study, investigations covering different associated areas would be carried out and the specific findings pulled together would provide a set of recommendations indicating the short-term and the long-term remedial measures. These sub-projects are briefly enumerated below :-

I. ROAD INVENTORY :

An extensive road inventory would be carried out whereby the total road mileage in the project area may be grouped under different categories on the basis of their effective width of the carriageway. This exercise would include roads from 10 feet wide and above and would include only those roads which carry vehicular traffic in the general sense (the internal roads and roads within housing estates etc. shall not be included). Mapping of these urban road sections would be carried out assigning section/link numbers so as to facilitate further use of the inventory for this study at subsequent stage.

II. VEHICLE INVENTORY :

The compilation of the vehicle inventory would attempt to depict the vehicle growth for the past ten years. This would be done on the basis of type-wise vehicle numbers available in the project area. Although the cumulative figures are available from the earlier projects/studies undertaken by the Transport Survey Section, they do not express the

actual number of vehicles effectively utilizing the city road network. As such, the same exercise should also be repeated/up-dated to provide the road-worthy number of vehicles (type-wise) on annual basis for the past ten years. Eventually, a projection of the likely number of vehicles by categories will follow.

III. ESTIMATION OF THE PCE VALUES :

As many as 8 different types of road vehicles utilize the road network, out of which 3 are non-motorised, the rest being all motorised. For obvious reason the vehicle characteristics affect the operating performance of the different types of vehicles whereby the technologically efficient one is found to be under-utilized. For the sake of quantifying the impact of any type of vehicle on a heterogeneous traffic stream in a section of the road network, the use of a common denominator is felt imperative. Conventionally, all types of vehicles are expressed in terms of the "Passenger Car Equivalent" (PCE), which varies with the traffic mix and the various local situations. Therefore, before attempting any traffic flow analysis, the PCE values for different types of vehicles need to be computed with reference to the local traffic flow situations.

The specific approach as suggested by the consultants of the IUD (Integrated Urban Development) Project may also be investigated. In most of the developed countries, the passenger car traffic constitutes a large proportion of the traffic stream. This is due to the high level of car-ownership in those countries. In contrast, only 7 to 10 percent of the traffic in Jaipur city is passenger car (due to low level of car-ownership/car availability) and the percentage of cycle-rickshaw in the traffic stream is in the range of 75 - 80%. This suggests the use of "Rickshaw Equivalent" values instead of the PCE values for the traffic flow analysis under local situations.

IV. INPUT-OUTPUT MATRIX & THE TRAFFIC FLOW PATTERN :

The computer traffic by different modes originating from and terminating

at the project area has a significant influence on the traffic flow pattern in the city road network. Such traffic, by different modes, are as follows :-

- (a) Road traffic originating from and terminating at the Zia International Airport ;
- (b) Road traffic originating from and terminating at the Sadarghat Inland Water Terminal ;
- (c) Road traffic originating from and terminating at the Kamalapur Railway Station ;
- (d) Road traffic originating from outside the project area and terminating within the project area (basically the inter-district and similar movements by road);

On the basis of the input-output matrix and the intra-urban traffic movements, a mapping of the traffic flow pattern (in PCE per hour in a specific direction) would be attempted using the PCE values computed during the earlier stage of the study. The Peak and the Off-Peak flow would also be duly investigated as a part of this analysis to establish the optimum capacity of the existing road network.

V - ESTIMATION & PROJECTION OF THE TRANSPORT REQUIREMENT :

The entire project area would be disaggregated into several zones on the basis of the land-use pattern and the population. A separate survey to establish the Origin-Destination Matrix shall also be attempted. In addition, a Household Survey (first of its kind) covering these zones would be undertaken to collect the socio-economic parameters, i.e, income level, disposable income, trip making characteristics, modal choice etc. These would then be used to compute the projected demand as well as to forecast the trip making characteristics, making suitable of the Gravity-Model.

VI LOCATION STUDY FOR THE BUS ROUTES & THE INTER-DISTRICT TERMINALS :

At present, there is a bus terminal located very close to the Central Business District (CBD) to co-ordinate the inter-district bus movements which is also inadequate in terms of its capacity. Moreover, the present location of the Bus Terminal is already causing significant congestion and traffic jam at the CBD and the adjoining areas. If the Bus Terminal is proposed to be improved in the same location to cope with the demand, it would further aggravate the congestion in this area and as such the same not desirable. An alternative proposal to solve this problem would be to disaggregate the present Terminal by way of setting up several small Terminals at the outskirts of the city. This may justify locating a Terminal at Mirpur/Kallyanpur for the buses reaching Dacca from the areas on the west of Jamuna and vice-versa ; another Terminal at Mahabul area for serving the buses catering to the northern districts and yet another one on the Dacca-Narayanganj road for the buses serving Chittagong, Noakhali, Comilla and Sylhet districts. A thorough investigation in this regard would be carried out to provide more than one technically feasible locations for siting these Terminals. Subsequently, an attempt may be made to finalise the most economically feasible locations.

The locations of the different stoppages and the bus routes need an in-depth and thorough investigation in order to assess the extent of public transport service now being rendered to the urban population. These routes were formulated long ago precisely on the basis of value judgement and was not based on any traffic-flow exercise. The optimization of the network could be attempted on the basis of the Origin-Destination Matrix and the traffic flow pattern along the city road network. Thus, the available bus fleet could be more effectively utilised and the future requirement with regard to the fleet expansion, both in the public as well as in the private sector, could be computed with a greater level of reliability.

VII FEASIBILITY OF INTRODUCING TROLLEY BUS SYSTEM :

The present urban population of the Metropolitan Dacca is estimated at

35 lanes which is expected to be in the range of 70 to 80 lanes by 2000 A.D. This would cause a corresponding increase in the trip making characteristics and the transport demand. In the backdrop of such an increase in the transport demand, at certain stage the present modes of transport would become totally incapable of meeting the demand. It is in such situations that certain mass-transit system like sub-urban railway, trolley bus system etc. would be needed. With this end in view, and in the backdrop of the projected demand, a feasibility study would be carried out to examine the prospect of introducing the trolley bus system in the project area. This may also help in reducing the financial loss presently incurred by the BRIC, if the mass-transit system proves technically feasible and economically viable.

VIII DISSEMINATION OF IMPROVED DESIGNS OF CYCLE-RICKSHAW :

The cycle-rickshaw as a public transport mode dominates the traffic stream of the Dacca city. It is estimated that about 70% of the city passengers use the cycle-rickshaw. Considering their patronage and importance as a public transport mode, improved designs have been developed (Both for the passenger and for the cargo) by the Planning Commission (Transport Survey Section) in co-operation with the EJET. A number of such proto-types have already been fabricated and tested. But this cycle-rickshaws need to be properly disseminated to the pullers without which the anticipated benefits of the improved versions shall never leave the garage of the designer and reach the pullers and the users for whom these have been fabricated.

IX SHORT-TERM AND LONG-TERM RECOMMENDATIONS :

On the basis of the findings emerging out of the above exercises covering all the different major aspects of urban transportation, a set of short-term and long-term remedial measures would emerge. A co-ordinated effort to implement these recommendations would go a long way in formulating the

basic policy guidelines in reducing the transportation problems of the Metropolitan area.

8. JUSTIFICATION OF THE SCHEME :

The migration pattern of the rural population towards the urban centres, despite the various rural development measures adopted by the Government from time to time, registered a steady growth during the last decade. A proper balancing of rural-urban development matrix is a long drawn phenomenon and as such, the migration pattern is not expected to change significantly during the coming years. Consequently, by the year 2000 A.D, the total urban population in the national level is expected to reach at one-third of the total population.

From the basic aspects of land-use, the activity functions covering the different human activities would increase continuously with the increase in the urban population. The basic needs, e.g. food, clothing, medical care, shelter and education, have one thing in common -- a basic demand for transportation in varying magnitude and nature. Consequently, with the increasing level of activity functions, the link functions would also be increased simultaneously. This link efficiency although covers all the transport modes, in the context of urban transportation the link efficiency of the road network is found to dominate.

In view of the increasing trend in the urban and the peri-urban population of the Dacca Metropolitan area, more and more vehicles would find their way into the present infrastructure, and in view of the increasing demand for such activities, the road network would fail to accommodate any further increase in the link efficiency to meet the demand. In order to hit a balance between the supply and the demand scenario, a proper understanding of the elasticity parameters as well as the infrastructural network and assets need to be worked out thoroughly using a rational and meaningful projection of the future supply-demand situations.

For the sake of formulating a balanced Master Plan, especially in view of the resource constraint and the prevailing oil crisis, a policy-oriented feasibility of this nature as proposed under this scheme warrants a much higher priority. The increasing rate of road accidents and the strong possibility of under-utilization of the motorised vehicular fleet also calls for an equal appreciation from the policy makers.

9. REPERCUSSION OF THE SCHEME :

On completion of the scheme covering the scope of works as enumerated above, a set of bench-mark parameters alongwith the future trend of transportation requirement would emerge. Using these as the basic guidelines, the future course of action in providing a less costly and efficient transportation network for the urban population could be effectively formulated. Based on the experience and expertise of the local counter-part officers obtainable from this study, similar studies under less complicated situations could be initiated by the Transport Survey Section independently for the urban centres like Chittagong, Moulana, etc.

The anticipated outcome of this study are briefly enumerated below :-

- (a) At present, there is no exhaustive road inventory available depicting the entire road network of Dacca city. A self-contained volume of road inventory showing the physical dimensions and parameters would be available for ready reference and progress monitoring in this regard;
- (b) A chronological vehicle inventory, segregated on the basis of vehicle-types would be possible. Till to-day, only the vehicle statistics based on their registration are available. However, the chronological vehicle abandonment due to accidents, obsolescence and vehicle transfer outside the registration area are not properly accounted for in these cumulative vehicle statistics now being

compiled by the concerned organisations from time to time. In the absence of a reliable figure on the road-worthy vehicles using the road network of the Dacca Metropolitan area, a correct assessment of their infra-structural requirement can not be worked out;

(c) The vehicle characteristics and their effect on the traffic flow pattern under different situations have not been attempted so far. The road-worthy vehicle fleet and their infrastructural requirement without any reference to the traffic flow situations are not expected to lead to any practically meaningful use. A thorough study on the traffic flow situations duly aided by traffic count, intersection flow analysis and other associated parameters have been included under this study which would offer an insight to the urban transportation planning;

10. ITEM-WISE BREAKUP OF THE INVESTMENT COST :

The investment cost of the project is estimated to be Tk.143.10 lacs, out of which Tk.23.36 lacs is proposed to constitute the GoB input through the Annual Development Programme. An amount of Tk. 119.74 lacs would be Project Assistance Grant out of which Tk. 27.74 lacs would be in the form of R.P.A. The study would require an estimated input of 80 man-months of expatriate assistance. The services of the local consulting firms would be used to supplement the detailed works under this study. The Transport Survey Section of Planning Commission would provide the overall co-ordination and support service for the study. The item-wise breakup of the project cost may be seen in Annexure-I.

11. DETAILS OF EXPERT EXAMINATION :

The importance and utility of such a study principally covering the urban transportation aspects has long been felt imperative. The first study in examining the transportation network was undertaken by the U.S. Army Corps of Engineers during 1961, which basically covered the inter-district movements, transport agencies/organisations, etc. at the national level. The second and the most extensive transportation study was initiated by the Economist Intelligence Unit in collaboration with the Scott Wilson Kirkpatrick and Partners. This study also covered the entire transportation network of Bangladesh and excluded the urban transportation from the purview of their study. However, they recommended in their Final Report (1975) for a separate study to look into the urban transportation problems as quoted below :-

" We envisage a continuing role for non-motorised vehicles for the foreseeable future and recommend a policy which seeks to improve their design and adapt external conditions to their more effective use. We recommend as a subject for further study modal choice in urban transport (outside the Terms of Reference for this Survey). Such a study should pay particular attention to the use of non-motorised vehicles and might be on a regional rather than merely a national basis." (pp.77, Part I, BTS Report, 1975)

Another study, titled "Dacca Metropolitan Area Integrated Urban Development Project" covering an associated field was initiated by the GoB with the assistance available from the Asian Development Bank and the UNDP. The problems and bottlenecks of the urban transportation, especially of the Dacca Metropolitan Area, was highlighted in the Final Report (1981). The consultants recommended eleven different projects for further in-depth investigation which also includes a comprehensive transportation study covering the Dacca Metropolitan Area.

In view of the recommendations and findings of different consultants from time to time, a definitive priority emerged for undertaking such a comprehensive transportation study for the Dacca Metropolitan Area. An extensive study to assist the Government in formulating effective strategies in this direction was also stressed in the Second Five Year Plan (Draft Write-up). The assessment of the priority as contained in the Draft Plan document is quoted below:-

" (e) to tackle the urban transportation problem in the major cities through close co-ordination of land-use plan, traffic engineering and transport improvement plans, by the end of the Second Plan period the three major cities of Dacca, Chittagong and Khulna should each have a traffic and transport plan."

(pp.XV-9, Draft Second Five Year Plan, 1980-85)

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01.45	01.45	01.45	01.45	01.45	01.45	01.45
01.46	01.46	01.46	01.46	01.46	01.46	01.46
01.47	01.47	01.47	01.47	01.47	01.47	01.47
01.48	01.48	01.48	01.48	01.48	01.48	01.48
01.49	01.49	01.49	01.49	01.49	01.49	01.49
01.50	01.50	01.50	01.50	01.50	01.50	01.50

ANNEXURE - I

ITEMS UNDER THE PROJECT

(Table in Rupees)

Sl. No.	Brief description of items	Total	Govt. input	Project	R.P.A.
			through AEP	Total	
1.	Expatriate consultants (80 man-months)	75.00	-	75.00	-
2.	Government counterpart	2.00	2.00	-	-
3.	15 overseas round-trip of the project personnel incl. local travel & associated expenses	10.00	-	10.00	-
4.	Office Rent (6000 sqft)	4.00	4.00	-	-
5.	Office equipment	5.00	-	5.00	5.00
6.	Consumable Stationeries	3.00	3.00	-	-
7.	Survey Vehicles (3 Nos)	7.00	3.50	3.50	3.50
8.	Fuel & Maintenance of survey vehicles	5.00	3.00	2.00	2.00
9.	Cost of producing the Final Report	5.00	-	5.00	-
10.	Local Consultants/Associates	16.00	4.00	12.00	12.00
11.	Dissemination of the improved versions of cycle-rickshaw	0.50	0.50	-	-
12.	Study tours, Seminar and Training Grant for the Govt Counter-part	2.00	-	2.00	-
SUB-TOTAL (A) :		134.50	20.00	114.50	22.50
13.	Overhead expenses of the Project Personnel (@ 2.5% of item 1)	1.88	-	1.88	1.88
14.	Expendables & General Supplies (2.5% of "A")	3.36	-	3.36	3.36
15.	Contingency	3.36	3.36	-	-
GRAND TOTAL :		143.10	23.36	119.74	27.74

ANNEXURE - II

REQUIREMENT OF GOVT. COUNTERPART PERSONNEL

Sl. No.	Name of the post	Total Number	Number of personnel to be recruited	Pay scale
* 1.	Section Chief & Project Director	1	*	2350 - 2750/-
* 2.	Deputy Chief & Deputy Project Director	1	*	1850 - 2375/-
* 3.	Assistant Chief	1	*	1400 - 2225/-
* 4.	Research Officer	2	*	750 - 1470/-
5.	Urban Geographer	1	1	750 - 1470/-
6.	Sociologist	1	1	750 - 1470/-
* 7.	Investigators	8	*	470 - 1135/-
* 8.	Draftsman	2	*	400 - 825/-
* 9.	Driver	3	*	300 - 540/-
10.	Costetner Operator	1	1	250 - 360/-
11.	Messenger	4	4	225 - 315/-

Note : Posts with (*) marks are expected to be available on part time/full time basis from the existing regular set-up of the Transport Survey Section.

ESTIMATION OF FLOOR SPACE FOR THE OFFICE PREMISES

Sl No.	Name of the post	Number of personnel	Required floor space in square feet
1.	Project Director	1	250
2.	Deputy Project Director	1	250
3.	Expatriate Consultants	8	2,000
4.	Urban Geographer	1	150
5.	Sociologist	1	150
6.	Secretaries to Consultants	3	300
7.	Meeting/Conference Room	-	500
	Sub-Total (A):		3,600
8.	Service area : 10% of "A"		360
9.	Stairs, etc. : 5% of "A"		180
	TOTAL:		4,140

Assuming Tk.4.00/Sq Ft as rent, the total rent for the office premises for 24 months comes to :

$$(4.00) \times (4,140) \times (24) = \text{Tk. } 3,97,440.00$$

= say Tk. 4.00 lacs;

OFFICE EQUIPMENT & IMMEDIATE FURNITURES

Sl No	Items	Quantity	Unit rate	Total Cost
(A) EQUIPMENTS :				
* 1.	Typewriters	6	*	90,000.00
* 2.	Duplicating Machine	1	*	15,000.00
* 3.	Rank Xerox Photo Copier	1	*	65,000.00
4.	Calculators with Adapters	15	600.00	9,000.00
5.	Field survey & Drawing equipments	L.S	-	1,75,000.00
Sub-Total (Equipments)				3,74,000.00
(B) FURNITURES & FIXTURES :				
1.	Conference Table with 20 chairs	1	10,000	10,000.00
2.	Secretariate Table	10	3,000	30,000.00
3.	Half-Secretariate Table	5	2,000	10,000.00
4.	Ordinary Table	8	500	4,000.00
5.	Foamed Chair	10	900	9,000.00
6.	Cane seated chair	50	300	15,000.00
7.	Filing cabinet	10	1,500	15,000.00
8.	Steel Almirah	5	2,000	10,000.00
9.	Book Case	10	1,500	15,000.00
10.	Display Board	12	700	8,400.00
Sub-Total (Furnitures & Fixtures):				1,26,400.00
GRAND TOTAL :				5,00,400.00

Note : (*) indicates those equipments expected to be available from other completed projects; their depreciated values have been indicated in the above table.

4 - 5. Questionnaire

QUESTIONNAIRE

OF

THE JICA PRELIMINARY SURVEY TEAM

FOR

THE INTEGRATED TRANSPORT PROJECT
IN DACCA METROPOLITAN AREA

November, 1982

JAPAN INTERNATIONAL COOPERATION AGENCY

(JICA)

I. General

1. Five-Year Plan of Bangladesh

What is the progress made so far of the social and economic five-year plan of Bangladesh?

2. Dacca Metropolitan Area Integrated Urban Development Project

(1) What is the objectives of the "Dacca Metropolitan Area Integrated Urban Development Project" studied by the Government of Bangladesh, the ADB and the UNDP?

(2) Which parts of the recommendations of the above project are authorized by the Government of Bangladesh?

3. Study for the Integrated Transport Project in Dacca Metropolitan Area

(1) What is the background and motive of the Study?

(2) What are the expected conclusions and recommendations of the Study?

(3) What is the study area?

(4) What frame work shall be given to the Study? (eg; population, land use, industry, etc.)

(5) What is the relationship between the "Dacca Metropolitan Area Integrated Urban Development Project" and the Study?

(6) Are there any other plans to be consistent with the Study (eg; regional development plan, city planning, etc.), and what are their contents?

(7) What is the proposed schedule of the Study?

II. Urban Transport Administration System

1. Urban Transport Administration System

(1) What ministries/agencies are responsible for the following?

- a. Planning and implementation of road, railway, waterway, airport and seaport projects
- b. Management and control of public transport system (eg; railway, bus, shipping)
- c. Road traffic management and control

(2) How are these ministries/agencies organized?

2. Counterpart Ministry/Agency

(1) What ministry/agency is responsible for this Study?

(2) How is this ministry/agency organized?

III. Urban Transport

1. General

(1) What kind of data, statistics and information are available in Dacca as regards the following?

- (study year, accuracy, publisher)
- a. Population
 - b. Business
 - c. Industrial products

d. Land use

e. Topographical maps and aerial photographs

If any, where are they available?

(2) What transport studies were carried out in the past? (study year, title of the study, implementing agency)

(3) What are the situations of the ongoing urban transport projects? (implementation schedule, implementing agency, financial source)

(4) What are the pressing urban transport problems in Dacca in terms of;

a. Commuter, shopping and business

b. Commodity flow and

c. Others?

(5) What are any specific natural and social aspects to be considered in the Study? (eg, flood, preference, income distribution, "rickshaw", etc.)

(6) What are the perspectives of the future modal splits among railway, bus, shipping, private car and others?

(7) What kinds of institutions and systems are currently working as regards below?

a. Land ownership

b. Restrictions of land use

c. Subdivision control and land development permission

2. Public Transport

(1) What is the present conditions of the public transport?

- a. railway network by number of trucks, type of power (eg; electrification), etc
- b. bus route network
- c. waterway network
- d. airway network

(2) How are the fleet size of railways, buses and ships?

(eg; number of rolling stock, passenger cars, buses, ships)

(3) What is the conditions of the maintenance for the public transport system?

(4) How many passengers and freight does the public transport system handle per year, per month, per day? (by railway, bus, shipping, aviation)

(5) Are any origin and destination statistics of the public transport available in Dacca?

(6) What is the capacity of transportation in the existing public transport system?

(by passenger and freight)

(7) What is the fare system for the public transport system?

3. Road Transport

(1) What is the conditions of the road network?

(2) What kind of data, statistics and information are available?

- a. Traffic volume on roads by type of vehicles
- b. Traffic volume by origin and destination

(3) How many vehicles are existed including rickshaws and motor-cycles?

What is the way to search for the owners of the vehicles?

(4) What kind of systems/laws are established regarding;

- a. Traffic regulation
- b. Vehicle inspection system
- c. Driving license system

Iv. Contribution of the Government of Bangladesh for the Study

How will the Government of Bangladesh be able to contribute to the smooth implementation of the Study?

- a. Assignment of the counterpart personnel (eg; officers, engineers)
- b. Organization of the field survey team for traffic counting, etc.
- c. Provision of computer device
- d. Provision of office space with necessary equipment
- e. Provision of vehicles with driver, photocopier, typewriter, etc.
- f. Organization of Steering Committee composed of members of each sector

V. Others

(1) Is the computer device available in Dacca?

a. Kind of machines

b. Cost for use

(2) Is any local consultant firms available in Dacca?

I. General

1. Five Year Plan of Bangladesh

A copy of the Draft Five Year Plan (covering the chapter on Transport Sector only) and a copy of the Annual Economic Review for 1980-81 has been furnished to the Survey Team.

2. Dacca Metropolitan Area Integrated Urban Development project

(1) The objectives of the " Dacca Metropolitan Area Integrated Urban Development Project " are detailed in the Term of Reference as available in Final Report (Volume 1, page-2).

(2) The study was completed under the continuous guidance of two Committees wherein the concerned Ministries, Organisation and Agencies were duly represented. As such the findings and recommendations as contained in the Final Report have due concurrence of the Government.

3. Study for the Integrated Transport Project in Dacca Metropolitan Area

(1) In view of the increasing level of congestion in the City Area arising out of the voluminous migration trend from the adjoining rural areas, the present state of transportation services and the infrastructural facilities supporting the same are being felt utterly inadequate. With a view to reduce the transportation problem, an integrated and comprehensive transportation study covering the Greater Dacca Metropolitan Area is proposed to help in formulating a balanced Urban Transport Plan for the Area.

(2) The short term (2 to 5 years) and the long term (10 to 15 years) recommendations are expected to emerge out of the proposed study which is expected to help and guide the basic

policy measure and further investment strategy in this area.

- (3) As suggested by the Dacca Improvement Trust, the study area will be within a range of 750 to 1000 sq. miles.
- (4) Population, land use, traffic engineering consideration, improvement, modification and the possibility of integration of the "Intermediate forms" of public transport with the total transport system shall constitute the framework of the Study.
- (5) The proposed study covers one of the several areas suggested for further ~~investigation~~ investigation in the Final Report of "Dacca Metropolitan Area Integrated Urban Development Project". Furthermore, the basic description of the problem area as contained in this Report shall provide the starting point for the proposed study.
- (6) Apart from some development and maintenance projects covering the improvement, widening of City roads and other similar projects of the Physical Planning and Housing Sector are now being implemented on the basis of specific priorities rather than on the basis of any Regional Development Plan.
- (7) Since most of the primary and the secondary data need to be collected and extensive house-hold survey, traffic count, cordon survey etc. are to be conducted under this study around 12 months will be required to complete the survey and data collection phase. Using this data, the subsequent analysis leading to the Draft Report shall require a further period of six months. A further period of six months will be required to cover the supplementary aspects of the feasibility e.g. examining the possibility of introducing the trolley-bus system and further work on route planning for the public transport modes etc.

II. Urban Transport Administration System

1. Urban Transport Administration system

1(a) The Roads, Railways, Highways and Road Transport Division of the Ministry of Communication is responsible for the road and railways sector. The Ports, Shipping and IWT Division, Ministry of Communication looks after the waterways and seaport projects. The airports projects and the aviation activities are controlled by the Civil Aviation and Tourism Division of the Ministry of Defence.

1(b) The management and control of the public transport system are looked after by different Ministries/Divisions as given below :-

Railway - Ba-ngladesh Railway Board
Railways, Roads, Highways and Road Transport
Division, Ministry of Communication.

Bus - Bangladesh Road Transport Corporation
Railways, Roads, Highways and Road Transport
Ministry of Communication

Inland Water - Inland Water Transport Authority
Transport Ports, Shipping & IWT Division
Ministry of Communication.

Shipping - Bangladesh Shipping Corporation
Shipping & IWT Division
Ministry of Communication

1(c) The road traffic management and control is the responsibility of the Dacca Metropolitan Police Commissioner.

1(2) A Ministry is headed by the Minister-in-charge and may have several divisions as in the case of the Ministry of Communication. The Ministries/Divisions are looked after by a Secretary/Additional Secretary-in-charge under whom the different transport agencies like the BRTC, Bangladesh Shipping Corporation, etc. also function.

2. Counterpart Ministry/ Agency

(1) The Transport Section of Planning Commission under the

Ministry of Finance and Planning is responsible for this Study.

- (2) The Minister-in-charge of the Ministry of Finance & Planning heads several divisions e.g. four divisions under Finance, Planning Division, Statistical Division and Planning Commission. The Member (Infrastructure) looks after the Transport & Communication Division and the Physical Planning & Housing Division.

Urban Transport

1. General

- (1) The Government publication on the statistics covering various sectors is brought out annually by the Statistical Division of the Ministry of Finance & Planning. In addition to this, Statistics and information are obtainable from other concerned agencies/ organisation although no regular publication is available with all of them.
- (2) The following transport studies were carried out in the past:
- | | | | |
|--|---|------|--|
| (a) Transportation Survey of East Pakistan | - | 1961 | U.S. Army Corp of Engineers |
| (b) Bangladesh Transport Survey | - | 1975 | The Economist Intelligence Unit Ltd. with the Scott Wilson Kirkpatrick & Partner |
| (c) Dacca Metropolitan Area Integrated Urban Development Project | - | 1981 | Shankland Cox Partner-ship. |
- (3) There is at present no on-going transportation study project
- (4) - Inadequate transport facilities for shopping, business and work trips within the City area ;
- traffic management and control problem giving rise to congestion and lowering the level of service ;
 - Lack of proper land-use in line with the growing demand for transportation and increase in the various activity functions;

(5) The following socio-economic considerations would warrant proper attention in course of the proposed study :-

- (a) Income distribution
- (b) Capital formation in the private sector
- (c) Creation of job opportunities
- (d) Proper integration of the "intermediate forms" of public transport with the overall transportation system
- (e) Institutional deficiencies.

(6) The future modal split is not possible to be forecasted in the absence of a through field survey and analysis of the pertinent data.

(7) The Dacca Improvement Trust is entrusted with the responsibility of ensuring these within the study area.

2. Public Transport

(1) a. Railway is not at present being used as an urban public transport. However, the statistics on national level is available from the Statistical Year Book published annually by the Railway Board.

b. The bus route network alongwith the bus inventory is obtainable from the BRTC although the Private Sector buses have minor deviations and a few isolated routes as well.

c. The waterways network carries mostly the commuter traffic from outside the study area, and this sector is also not in use as an urban public transport mode.

d. The international airport is located at Dhaka within the study area and slightly away from the present city centre.

(2) The fleet size of railways, buses and ships may be obtained from the concerned agencies.

(3) The maintenance of public transport road vehicles falls under the public as well as the private sectors. The public sector

buses of BRTC are being maintained by them at their own workshops and the buses in the private sector are being maintained by the owners in their own way.

- (4) Same as at (2) above.
- (5) No. Field surveys need to be conducted to collect these.
- (6) The capacity of the Transportation system was estimated during 1975 by the Economist Intelligence Unit as contained in their Final Report. The same needs to be updated to reflect the present capacity.
- (7) The fare structure mostly corresponds to the telescopic system of fixation of fare to recover the operating cost in full along with a part of fixed cost. However, on the consideration that the transport service in the public sector is more or less a social service, the fare realised from the travelling public can not cover even the total operating cost in all cases.

3. Road Network

- (1) The roads in the old part of Dacca City are very narrow and, as such, Bus routes can not penetrate through them. In most of this part, the land for widening of the existing roads are also not available. The roads in the new part of the city are comparatively wider but the network is not adequately balanced to the present traffic level ~~and~~ and congestion level is quite high in both the old and some of the new parts of the City.

- (2) The data available on the road network are not exhaustive.

However, actual survey and collection of data from the relevant agencies would provide a wide data base. Scanty data on traffic volume is available in the Final Report of the Shankland Cox partnership.

- (3) The registered number of rickshaw, as obtained from the Dhaka Municipal Corporation, is around 30,000 although the actual

number is thought to be much higher than this. The number of other types of road vehicles alongwith the particulars of their owners may be traced out from the registration authority, in this case, the Dhaka Metropolitan Police.

- (4) The traffic regulation is the responsibility of the Police Administration of the city & they also issue the driving licence. There is no vehicle inspection system as the issuance of MOT, now in force.

IV. Contribution of the Government of Bangladesh for the Study

- (a) Mr. Sk. Mainuddin Ahmed, Deputy Chief, Transport Section, Planning Commission, will be available to work as the counterpart Officer with specialisation in the field of urban transportation. The possibility of obtaining other counterpart personnel (e.g. officers, engineers) for this study will be sorted out in consultation with the Member (Infrastructure) at a later stage.
- (b) The ~~fix~~ field survey team for the traffic count etc. may be organised with the locally recruited people. These people may have to be recruited out of the project fund. However, full cooperation would be extended by the counterpart officer in arranging and organizing the survey team.
- (c) Provision of computer device is locally available with the Bangladesh University of Engineering and technology, Dacca, on payment.
- (d) Office space and necessary office equipment may be available locally on rent/purchase and those need to be provided under the project cost of the study.
- (e) The same as at (d) above.
- (f) One steering Committee and one Technical Committee may be

formed to provide guidance and coordination to the expatriate consultants for the proposed study.

V. Others

(1) As given above at IV(c). The cost for such services may be obtained from the BUET. However, the specific type of computer needs to be inspected as far as its suitability is concerned.

(2) Several local Consultant firms are available at Dhaka.

JICA