

JBIC Research Paper No. 4

Urban Public Transportation in Viet Nam

- Improving Regulatory Framework -

December 1999

Research Institute for Development and Finance Japan Bank for International Cooperation

JBIC Research Paper No. 4 Japan Bank for International Cooperation (JBIC) Published in December 1999

© 1999 Japan Bank for International Cooperation All rights reserved.

This Research Paper is based on the findings and discussions of the Research Institute for Development and Finance, JBIC *. The views expressed in this paper are entirely those of the authors and do not necessarily reflect those of JBIC. Some sources cited in this paper may be informal documents that are not readily available. No part of this publication may be reprinted by any means without prior permission from JBIC.

^{*}Japan Bank for International Cooperation (JBIC) was established in October 1999 as an organization that conducts Japan's external economic policy and economic cooperation. JBIC is set to pursuing a more enhanced role by integrating the functions of two merged organizations: The Export-Import bank of Japan (JEXIM) and the Overseas Economic Cooperation Fund, Japan (OECF).

Upon the establishment of JBIC, the Research Institute for Development and Finance (JBICI) was created as its research arm. Its research activities are geared toward improving the overall quality of JBIC's operations through systematic analysis of various issues and policies related to JBIC's activities. JBICI was established by merging the two former research institutes: the Research Institute for International Investment and Development (RIIID) of JEXIM and the Research Institute of Development Assistance (RIDA) of OECF.

Foreword

In 1992, the Overseas Economic Cooperation Fund, Japan (OECF), whose functions have been transferred to the Japan Bank for International Cooperation (JBIC), resumed providing the concessional loans to Viet Nam. The ODA loan commitments to Viet Nam aggregated 506.4 billion yen, or approximately US\$ 4.6 billion, consisting of 56 loans as of March 30, 1999. These ODA loan projects are mainly for physical infrastructure development. JBIC, as a major donor agency in Viet Nam, needs to focus upon the regulatory and institutional improvements to make every development effort much more effective. This study aims at examining the regulatory improvements for the promotion of public transportation in Hanoi and Ho Chi Minh City.

The study team was formed by Naohiro Kitano, Director, and Kengo Mizuno, Economist, Research Institute for Development and Finance (JBICI), and Minoru Shibuya, Executive Director, Toshiaki Kudo, Consultant, and Junji Shibata, Consultant, Pacific Consultants International, and Masashi Hattori, General Manager, Pacific Consultants.

The study team and I appreciate the cooperation given by Vietnamese governmental bodies, i.e. Ministry of Planning and Investment, Ministry of Transport and the People's Committees of Hanoi and Ho Ch i Minh City, especially, the Hanoi Authority for Planning and Investment, Department of Planning and Investment and the Transport and Urban Public Works Service in each city. Thanks also goes to other workshop participants including, but not limited to, the Transport Development Strategy Institute, World Bank, Asian Development Bank, the Embassy and General Consulate of Japan and the Japan International Cooperation Agency. We are very grateful as well to the advisory group, which consisted of Le Dam Hanh, Research Staff, Institute for Transport Policy Studies, Hitoshi Kawada, Transportation Planner, Osaka City Government, Tetsuo Kidokoro, Senior Research Adviser to JBICI, Associate Professor, University of Tokyo, Hisashi Kubota, Associate Professor, Saitama University, and Hirotaka Yamauchi, Professor, Hitotsubashi University.

December 1999

Koichi Kosumi Executive Director Research Institute for Development and Finance Japan Bank for International Cooperation

Table of Contents

Foreword	i
Table of Contents	iii
List of Figures and Tables	iv
Abbreviations	vi
Executive Summary	I
Introduction	1
Chapter I Current Status and Outlook of Urban Transportation	2
1.1 Transportation Master Plan	2
(1) Hanoi	2
(2) HCMC	5
1.2 Characteristics and Outlook	7
(1) Increasing Motorization	7
(2) Decreasing Public Transportation	8
(3) Increasing Traffic Volume and Congestion	11
1.3 Forthcoming Challenge	13
(1) Public Transportation Development	13
(2) Infrastructure Development	15
(3) Environmental Management	15
Chapter II Overview and Regulatory Issues of Bus Transportation	16
2.1 Overview of Bus Transportation	16
(1) Hanoi	16
(2) HCMC	18
2.2 Regulatory Framework	21
(1) Relevant Authorities	21
(2) Entering Bus Business	22
(3) Licensing	23
(4) Operational Regulations	24
(5) Taxation	24
(6) Subsidization	25
2.3 Regulatory Issues	27
(1) Issues Identified by MOT	27
(2) Issues Identified by the Study	27

Chapter III Measures for Regulatory Improvements of Bus Transportation 30	
3.1 Policy Instruments by Vietnamese Authorities 30	
(1) The Prime Minister's Directive 30	
(2) Proposals by Both Cities 31	
3.2 Recommendations 33	
(1) Regulatory Improvements 33	
(2) Pilot Project 34	
Bibliography 39	

List of Figures and Tables

Figure 1.1	Spatial Structure of Hanoi in 2020	4
Figure 1.2	Spatial Structure of HCMC in 2020	6
Figure 1.3	GRP per Capita and Vehicle Ownership	7
Figure 1.4	Modal Share of Major Asian Cities	7
Figure 1.5	Bus Fare and Motorcycle Cost	10
Figure 1.6	Average Travel Speed in Major Asian Cities	12
Figure 1.7	Stages of Transportation Development in Major Asian Cities	13
Figure 2.1	Organizational Chart of HCMC's MOCPT	22
Figure 2.2	Procedure to Obtain Approval of Bus Operation	23
Figure 2.3	Inter-ministerial Negotiation Structure on Preferential Treatment	-25
Figure 2.4	General Procedure for Subsidization	26
Figure 3.1	Example of Trunk Bus system	36
Figure 3.2	Routing Image of Pilot Project in Hanoi	37
Figure 3.3	Routing Image of Pilot Project in HCMC	38
Table 1.1	Population Projection of Hanoi Master Plan 2020	2
Table 1.2	Population Projection of HCMC Master Plan 2020	5
Table 1.3	Number of Registered Vehicles in Hanoi	8
Table 1.4	Changes in Composition of Registered Vehicles in HCMC	8
Table 1.5	Reasons for High Usage of Motorcycle	9
Table 1.6	Bus Fleet Size and Ownership	9
Table 1.7	Number of Bus per Thousand People in Select Asian Cities	10
Table 1.8	Predicted Traffic Demand in Hanoi	11
Table 1.9	Predicted Traffic Demand in HCMC	12
Table 1.10	Stages and Levels of Development of Metropolis	14
Table 2.1	Taxi Fare Ranges in Hanoi	16
Table 2.2	Bus Route and Operation in Hanoi in 1997	17
Table 2.3	Public Transportation Fare Levels in HCMC	18
Table 2.4	Bus Route and Operation in HCMC in 1998	19
Table 2.5	Subsidy Budget of HPC for Bus Operation	26
Table 2.6	Estimated Subsidy for HBC in the $4^{ m th}$ Quarter, 1998	26
Table 3.1	Proposed Policy Instruments for Bus Operators	31

Abbreviations

ADB	Asian Development Bank
BPPT	Bus Public Passenger Transportation
DFID	Department for International Development, U.K.
DPI	Department of Planning and Investment, HCMC People's Committee
GDP	Gross Domestic Product
GRP	Gross Regional Product
HAPI	Hanoi Authority for Planning and Investment, HPC
HBC	Hanoi Bus Company
HCMC	Ho Chi Minh City
HPC	Hanoi People's Committee
JBIC	Japan Bank for International Cooperation
JBICI	Research Institute for Development and Finance, JBIC
JICA	Japan International Cooperation Agency
MOCPT	Management and Operation Center for Public Transportation
MOF	Ministry of Finance
MOT	Ministry of Transport
MPI	Ministry of Planning and Investment
ODA	Official Development Assistance
OECF	Overseas Economic Cooperation Fund, Japan
PMU	Project Management Unit
RPI	Retail Price Index
SAPROF	Special Assistance for Project Formation
TDM	Traffic Demand Management
TDSI	Transport Development Strategy Institute
TUPWS	Transport and Urban Public Works Service
WB	World Bank
VND	Viet Nam Dong

Executive Summary

Introduction

Viet Nam is experiencing rapid urbanization and motorization owing to economic development after the introduction of Doi Moi policy. Urban transportation problems such as traffic congestion and air pollution are becoming important challenges for the nation's two major cities of Hanoi and Ho Chi Minh. This study outlines the current status and issues of motorcycle-dominated urban transportation in both cities, reviews the present regulatory framework regarding the bus transportation, and recommends the regulatory improvements for the promotion of public transportation.

Chapter I Current Status and Outlook of Urban Transportation

Characteristic of Urban Transportation

Motorcycle ownership rates at both cities are extremely high, nearing 250 vehicle per 1,000 person (**Figure 1**), and the modal shares of motorcycle and bicycle exceed ninety percent. High usage of motorcycle can be explained by three reasons, i.e. no driver's license obligation, its asset value and convenience (**Table 1**).



Source: Each city's statistics Figure 1: Ownership Rates of Motorcycle and Car

l'able 1: Reasons for High Usage of Motorcycl

Reason	Description
No driver's	No driver's license is required when driving motorcycle of smaller
license obligation	than fifty-cc displacement.
Asset value	The price of used motorcycle does not depreciate significantly (e.g. USD 2,300 for new one versus USD 2,000 for used one, in the case of the most popular Honda Dream II). Motorcycle holds asset value among others like real estate and gold.
Convenience	The city area is not still wide enough, so that people can commute
	almost everywhere easily by motorcycle.

The modal shares of bus, which is practically the only public transportation mode, account for less than six percent, and are very lower than other Asian cities (**Figure 2**).



Source: Each city's statistics

Figure 2: Modal Split Comparison among Asian Cities

Urban Transportation Policy and Planning

Master Plans of both cities expect that populations will be nearly doubled by 2020 and urbanized areas will largely spread out beyond the city boundaries. Both Plans target to develop decentralized spatial structure with expanded road network (**Table 2**).

"The Master Plan of Urban Transport for Hanoi City in Viet Nam" was prepared by JICA in 1997, and "HCMC Transport Study" by DFID in 1998. Both studies estimate the capital requirement, but its financing sources are not so fully examined because both cities' detailed budgets has not been disclosed.

		Present	Projecti	on/Plan			
		1997	2005	2020			
Population	Hanoi	1,312	1,730	2,500			
(thousand)	HCMC	4,990	6,200	9,000			
Road space against city area	Hanoi	7.7%	n.a.	25-30%			
	HCMC	7.0%	n.a.	25-30%			

Table 2: Development Framework

Note: HCMC has much wider area thus the percentage of road space at present is lower than Hanoi. But in the city center HCMC has spacious grid roads.

Source: Each city's Master Plan 2020

Outlook of Urban Transportation Development

Increasing commuter needs and extending trip length will together generate huge traffic volume in both cities. Modal shift from motorcycle to motorcar is also emerging, and is anticipated to bring about heavy traffic congestion and severe air pollution. For the decentralization of spatial structure targeted by the Master Plans, the public transportation mode linking the city center with suburbs is indispensable, since motorcycle is not so suitable for longer trip length.

The People's Committees of both cities put high priority on the promotion of bus transportation, bearing in mind the possibility of future upgrading to higher capacity modes such as LRT and MRT in the mid- and long-term perspective. According to the transportation studies of both cities, the modal shares of public transportation (i.e. bus) are estimated to increase to nearly ten percent in 2020 (**Table 3**), and in Hanoi, for example, the number of bus vehicles required will reach approximately 3,000 in 2010 and 4,000 in 2020, while the figure at present is less than one hundred.

	Table 5. I rejection of Modal Share of I ablie Hansportation							
-			Present	Projection/Plan				
				2020				
Travel demand	Hanoi		3.3 mil. (1995)	8.9 mil.				
(the number of trips)	HCMC		8.2 mil. (1996)	22.1 mil.				
Modal share of public	Hanoi	Policy Goal	n.a.	50%				
transportation		JICA Study	3.6% (1995)	9.5%				
	HCMC	Policy Goal	n.a.	50%				
		DFID Study	5 5% (1996)	8 5%				

Table 3: Projection of Modal Share of Public Transportation

Note: Figures of HCMC refer only to data of the AM peak hour. Source: Each transportation study

Chapter II Overview and Regulatory Issues of Bus Transportation

Overview of Bus Transportation

Bus operation within both cities are basically monopolized by the municipal bus companies under each TUPWS (**Table 4**). In the early 1980s, the modal shares accounted for twenty-five to thirty percent, but the number of bus routes and the frequency have decreased after Doi Moi, when subsidies for public companies began to get curtailed.

In Hanoi, an entry proposal for the bus business was made by a Korean conglomerate in the mid 1990s, but was rejected because the authority and the conglomerate could not agree upon the investment scale and fare level etc. In HCMC, an Australian investor formed a join-venture with the municipal bus company and entered upon the business in 1993, but withdrew for a financial reason in 1997.

Tuble II outline of Municipal Dub companies								
	The number	of	The	number	of	The	number	of
	companies		regist	tered vehicle	es	passe	ngers	
Hanoi (1997)	1		-	83		-	18,000	
HCMC (1998)	2			86			16,000	

Table 4: Outline of Municipal Bus Companies

Note: This table excludes minibus cooperatives, mainly serving suburban routes. Source: Each transportation study

Regulatory Issues of Bus Transportation

Bus business generally has a competitive and contestable nature that provides an easy access for the private sector to enter into the market. In both cities, however, the public sector plays a dominant role as regulator-operator. Regulatory framework is designed mainly for the municipal bus companies, and thus holds the following issues in the light of the private investment.

- Unclear and complicated procedures: The entry proposals are assessed throughout the relevant authorities including MOCPT, TUPWS, HAPI/DPI, People's Committees, MOT and MPI, but the regulations don't strictly define who evaluates what with what criteria.
- Huge capital investment requirement: The authorities expect candidates from the private sector, especially foreign investors, to equip a large number of buses, e.g. more than 100 vehicles, and thus impose harder hurdle for small-scale operators who are active in suburban and inter-city services.
- Limited operational autonomy: The operators must comply with the approval on almost every operational aspect, e.g. routes, operation hours, frequency etc., and can not flexibly alter it on demand.
- *Rigid fare regulation:* The fare level is regulated politically very low. Rigid fare regulation discourages the private investment, and rather shrinks the bus services.
- Ineffective subsidization: Subsidy is calculated by a vehicle-kilometer basis, and is offered only to the municipal bus companies. But this method does not give them an incentive to achieve efficiency gains.

Chapter III Measures for Regulatory Improvements of Bus Transportation

Proposals by the Both Cities

For the promotion of bus transportation, each TUPWS proposed, to the respective People's Committees and MOT, policy instruments such as vehicle procurement by ODA and reduction of tax and levy for the municipal bus companies. These instruments, however, aim to enlarge the preferential treatment for the municipal bus companies under the current regulatory framework. Meeting the public transportation needs in the future only by the public sector could not solve the existing constraints and would not develop the bus transportation market.

Recommendations of This Study

In order to promote the private investment to the bus business, a business-friendly environment, under which the private sector can operate and compete flexibly, must be enhanced. This study, therefore, recommends to redesign the regulatory framework for increased clarity, flexibility and efficiency as follows.

• *Simplified and clarified procedure:* The operator (municipal bus company) and the regulator (MOCPT) must not be under the same authority (TUPWS), to secure the

fair competition between the incumbent and the newcomer. MOCPT should be separated from TUPWS and vested with much authority to simplify the procedures and to clarify who is responsible for what in evaluating entry proposals.

- Lowered capital investment requirement: Huge capital investment requirement should be lowered or repealed for an easy entry to the bus business, so that the new, additional and upgraded services are offered to the potential users who have neither access nor convenience to ride the buses at present.
- Increased operational autonomy: The operator must be given a greater operational autonomy for flexible service delivery. The operator needs not apply for an approval on, but should notify of, every little operational aspects such as route, operation hour, and frequency.
- Deregulated fare control: To make the bus business much more attractive for the private sector, the maximum fare level can be somewhat raised with an introduction of the price-cap control, under which the operator is allowed to flexibly set the fare level below the maximum. Otherwise, the bus transportation might get shrunk further without capturing new private investments.
- Rationalized subsidization: Subsidy must not deprive the operator of an incentive to become cost-effective. The receiver of subsidy should compete for either better service quality under the same subsidy amount or lesser amount keeping the same quality.

Pilot projects, such as bus-dedicated lanes with limited-terms in selected routes, can be also considered to demonstrate usefulness of the bus service for the citizens, marketability for the investors, and policy directions of the People's Committees for both of them. Lessons to be learned from the pilot project will help materialize the regulatory improvements and hence promote the public transportation.

Introduction

Background and Objective of the Study

Viet Nam is experiencing rapid urbanization and motorization owing to economic development after the introduction of Doi Moi policy. Urban transportation problems such as traffic congestion and air pollution are becoming important challenges for the nation's two major cities of Hanoi and Ho Chi Minh.

OECF, whose functions have been transferred to JBIC, had provided the ODA loans for the urban development from road to drainage in Hanoi, and had conducted the SAPROF studies on transportation infrastructure development of Hanoi and HCMC. As a major donor agency in Viet Nam, now JBIC also needs to focus upon the regulatory and institutional improvements to make every development effort much more effective.

This study aims at examining the regulatory improvements for the promotion of public transportation in Hanoi and HCMC. The study outlines the current status and issues of motorcycle-dominated urban transportation of both cities, reviews the present regulatory framework regarding the bus transportation, and recommends the regulatory improvements.

Methodology of the Study

In October and December 1998, the study team interviewed with relevant Vietnamese governmental bodies, donor agencies and private firms in Hanoi and HCMC. The advisory group provided valuable comments on the study findings and recommendations in Tokyo. The workshops, organized by the People's Committees of Hanoi and HCMC and OECF, were held in March 1999 in both Hanoi and HCMC to verify the study findings and to discuss the regulatory improvements recommended. The study team has tried to reflect information and comments obtained from interviews, advisory meetings and workshops in completing the report.

Composition of the Report

The report consists of three chapters. Chapter I examines transportation master plans, characteristics and outlook of urban transportation and its forthcoming challenges. Chapter II outlines bus transportation service in both cities and examines its scheme and issues of regulatory framework. Chapter III reviews policy instruments adopted or proposed by the Vietnamese authorities, and recommends the regulatory improvements for the promotion of public transportation in Hanoi and HCMC.

Chapter I

Current Status and Outlook of Urban Transportation

This chapter examines transportation master plans, characteristics and outlook of urban transportation and its forthcoming challenges.

1.1 Transportation Master Plan

(1) Hanoi

(a) Development framework

Hanoi has achieved rapid economic development at an average growth rate of around 11% per annum since the Doi Moi policy. HPC envisages the following economic development targets: 14-15 % (1996-2000), 12-13% (2001-2010) and 11-12 % (2011 –2020). That is expected to result in higher share to the national economy, accounting for 17-18% of the GDP in 2020 from 6.5% in 1995.

Hanoi had a population of 2,490 thousand in 1997, with an urban population of 1,312 thousand and its vicinity of 1,177 thousand¹. The projected population of the Hanoi Capital Region² for the year 2020 is as shown in **Table 1.1**.³ Total population in the Hanoi Capital Region is to be 4.5 million and of Hanoi proper 2.5 million with an average density of 100 persons/ha.

			(thousa	and persons)
	Urban Area	Present (1997)	2005	2020
Ι	Hanoi Capital Region	1,433	2,465	4,500
П	Hanoi City	1,312	1,725	2,500
II-1	Development Restricted Area (South Hanoi City)	900	839	800
II-2	The Right Bank of Red River (South Hanoi City)	322	566	700
II-3	The Left Bank of Red River (North Hanoi City)	89	320	1,000
Ш	Urban area of satellite cities and well-balanced	84	390	1,500
	development area			
IV	Western Satellite Cities	54	280	1,000
V	Northern Satellite Cities	31	110	500
IV	Other Satellite Cities	294	350	500

Table	1.1	Population	Projection	of Hanoi	Master	Plan 2020
		1				

(thousand noncome)

Source: Summary Report of the Master Plan 2020 of Hanoi City, HPC

¹ Urban area consists of urban districts: Hoan Kiem, Dong Da, Hai Ba Trung, Ba Dinh, and Tay Ho; and rural area, Soc Son, Dong Anh, Gia Lam, Tu Liem, and Thanh Tri.

² The Hanoi Capital Region stretches an area of 30-50 km radius from the center of Hanoi.

³ The area category for population projection is not necessarily compatible to the administrative area definition because the Hanoi Master Plan does not specify the area by stating the names of districts.

(b) Transportation master plan

Road network

Hanoi has a well developed street system in the central districts including Hoan Kiem, Hai Ba Trung, Dong Da and Ba Dinh⁴. The urban street system has in general a grid and circumferential shape with some missing links, and its carriage-way width is generally narrow, around 10 meters on average. Three major arterial roads, namely National Highway No.1, No.6 and No.32 are connected to the densely inhabited urban area. These arterial and radial roads meets the Ring Road 2, which is the only ring road that presently functions. In recent years, housing development has been expanded outwards from the old urban area alongside those radial roads. River-crossings over Red River are only at two bridges of Thang Long and Long Bien at present.

Since there are very few public transportation services available at new housing areas as well as along less developed secondary arterial and local roads, most of the travel demand generated from the areas are mechanized (motorcycle) and use the major arterial roads connecting to the central area, generating heavy traffic volumes on those major roads.

To achieve the above mentioned development framework and to overcome such bottlenecks in the road network, more ring roads and more river-crossings are planed to form a functional road network. **Figure 1.1** shows the future road network and urban structure envisaged in the Hanoi Master Plan 2020. The road network will connect six suburban centers between the Third and Fourth Ring Roads. And the radial roads are to be linked to the satellite cities 30 to 50kms off from the city center.

Target of road provision in 2020 is 25% to 30 % in urbanized area in terms of road land share to the total city area. Significant effort must be made to meet this target, because the current level is only around 7.7%, with the highest rate of 22.9% for Hoan Kiem district and the lowest rate of 3.2% for Dong Da district.

Public transportation

According to "The Master Plan of Urban Transport for Hanoi City in Viet Nam" prepared by JICA in 1997, the number of daily trips made by public transportation will increase from 124 thousand trips, or 3.6% of the total trips in 1995, to 963 thousand trips, or 9.5% of the total trips in 2015. The number of buses required will reach approximately 3,000 in 2010 and 4,000 in 2020, while the figure at present is less than one hundred. On the other hand, the target modal share of public transportation is set by HPC at 50 % in 2020. According to the TUPWS's bus plan, the bus is hoped to serve 13 % of the total trips in 2002 as an interim target.

For the promotion of public transportation, MOCPT, a subordinate organization of TUPWS, has been making continuous efforts to improve bus transportation in the city. And urban railway system in Hanoi is under a feasibility study by German aid.

⁴ Roads of round 190 km in length are existing in an area of 49 km²



Source: Hanoi Master Plan 2020 Figure 1.1 Spatial Structure of Hanoi in 2020

(2) HCMC⁵

(a) Development framework

HCMC is the economic center of the country, with a share of 18.6% to the national GDP in 1997. HCMC's economy is growing at an average of around 13-14% per annum recently. HCMC has a population of 4,990 thousand in 1997 as shown in **Table 1.2** below. HCMC is forecast to hold a population of 6.2 million in 2005 and 9 million in 2020.

		(thous	and persons)
	1997	2005	2020
HCMC Total	4,990	6,200	9,000
Development restricted area (12 old districts)	3,541	3,580	3,600
Newly developed urban area (5 districts)	612	1,270	2,650
Suburb area (five districts) including new towns, residential areas adjacent to concentrated industrial parks and rural areas.	837	1,350	2,750

Table 1	l.2	Population	Projection	of	нсмс	Master	Plan	2020
---------	-----	------------	------------	----	------	--------	------	------

Source: Amended HCMC Master Plan 2020

(b) Transportation Master Plan

Road network

There is lack of a comprehensive secondary arterial road system, in particular outside the city center. The central area has a grid road system which is closely spaced and most of the buildings alongside the roads are shop-houses, thereby leading to heavy roadside traffic friction.

Since a series of high-standard radial roads, including four National Highways (No. 1, No. 13, No. 22, and No. 52) and three provincial roads plunge into the narrower roads of the central area, heavy traffic congestion is observed on these roads during peak hours. A system of ring roads may contribute to solving the problem, which however, has been only partially developed as of 1998. Besides, it would take much time and cost to expand the road capacity in the central area by widening constructing new surface roads.

Overcoming the present bottlenecks of the urban road network is the major task. As shown in **Figure 1.2**, an inner ring road will be developed to encircle the area. In addition, an outer ring road will be developed covering the newly developed urban area.

The target of road infrastructure development in percentage of road land to the city area is 20-30% in 2020 as depicted in the HCMC Master Plan 2020. In other words, that accounts for a road area of 17-20 square-meter per capita. Similar to the situation in Hanoi, this is a severe challenge considering that the present level is 7%, or 2.48 square-meter per capita.

⁵ HCMC consists of 17districts and five suburban districts that are: twelve existing urban district: Districts 1, 2, 3, 4, 5, 6, 8, 10, 11, Go Vap, Tan Binh, Binh Thanh, and Phu Nhuan; five newly developed districts: Districts 2,9 Thu Duc, 12 and 7; and five suburban districts: Cu chi, Hoc Mon, Binh Chanh, Nha Be and Can Gio.

Public transportation

According to "HCMC Transport Study" by DFID in 1998, the modal share of public transportation will grow from 5.5% of the total trips made during the morning peak two hours to 8.5% in 2020. On the other hand, the target share of public transportation is set at 20-30% in 2000, and 50 % in 2020.

The bus plan, prepared by MOCPT of HCMC for the promotion of public transportation, is rather oriented to physical development including construction of transit malls and bus maintenance workshops and purchasing bus fleets. Pre-feasibility study on railways/subways have been already studied by a German university.



Source: HCMC Mater Plan 2020



1.2 Characteristics and Outlook

(2) Increasing Motorization

(a) Motorcycle driven society

Car ownership in Hanoi and HCMC has still been very low, which is following the experiences of other Asian cities as shown in **Figure 1.3**. Instead, motorcycle ownership in both cities is extremely high in comparison even with the countries of a middle income group. The motorcycle ownership has reached around one motorcycle per household in both cities.



Source: Each city's statistics Figure 1.3 GRP per Capita and Vehicle Ownership

Accordingly the modal share of motorcycle among the mechanized trips is very high. An urban transportation study in Hanoi⁶ indicates that the modal share of the motorcycle is estimated at 92% (including bicycles). While the HCMC Transportation Study⁷ indicates that 93% of the mechanized trips are made by motorcycles (including bicycles) in HCMC. Although the shares of motorcar are still low in both cities, the cities have been transformed into a much "motorcycle driven society."



Source: Each city's statistics Figure 1.4 Modal Share of Major Asian Cities

⁶ The Master Plan of Urban Transport for Hanoi City, JICA (1997)

⁷ Ho Chi Minh City Transport Study, DFID, UK (1998)

(b) Increase in motor vehicles

<u>Hanoi</u>

The number of registered motorcycles increased from 390,000 in 1994 to about 462,000 in 1995 at an annual growth rate of 18.5 % (**Table 1.3**). The number of bicycles was estimated at 790,000 in 1994. The total number of registered vehicles was 47,261 in 1995. The absolute number of the registered vehicles has grown from a mere 3,501 in 1986 to some 47,261 in 1995 at an average annual growth rate of 33.5 %. HCMC

HCMC had about 1.4 million motorcycles and 81,000 cars and other vehicles in 1996 as show in **Table 1.4**. Though the level of passenger car ownership is still very low, there has been a distinct shift toward passenger cars. The number of passenger cars accounted in 1990 for about 33.8 % of all registered vehicles, and its share increased to 46.9 % in 1996.

Year	Passenger	Van	Light	Mediu	Heavy	Light	Medium	Heavy	Other	Total	De-register	Total
	Car		Bus	m Bus	Bus	Truck	truck	Truck		Registered	ed	Exist
1986	902	1	92	4	26	3	1213	192	1068	3501	1138	2363
1987	1469	2	142	7	75	6	2461	343	1677	6182	803	5379
1988	1843	3	170	9	131	11	3682	420	1974	8243	579	7664
1989	2798	154	341	24	232	22	7014	512	3329	14426	1604	12822
1990	3750	537	496	57	404	63	9012	528	6651	21498	1683	19815
1991	6502	1016	784	135	649	182	11847	535	10082	31732	1995	29737
1992	8190	1048	882	207	786	238	12547	538	11304	35740	646	35094
1993	10051	1175	1025	366	852	450	13209	539	11563	39230	169	39061
1994	11541	1355	1165	574	908	1066	13901	539	11684	42733	32	42701
1995	12581	1441	1250	646	952	2608	14942	547	12293	47261	10	47251

Table 1.3 Number of Registered Vehicles in Hanoi

Source: The Master plan of Urban Transportation for Hanoi City in Viet Nam, January, 1997, p.24., JICA

_				(thousa	and vehicles)
	Year	Motorcycles	Cars	Buses	Goods Vehicles
	1990	NA	12.3	9.9	14.2
	1991	500	13.5	10.9	15.7
	1992	NA	14.7	12.0	17.0
	1993	NA	16.1	12.9	18.3
	1994	844	17.5	14.0	19.8
	1995	NA	19.4	15.3	21.4

38.0

Table 1.4 Changes in Composition of Registered Vehicles in HCMC⁸

Source: HCMC DPI, TUPWS and Traffic Police.

1400

1996

18.0

25.0

⁸ According to the household income survey conducted under the HCMC Transport Study, car ownership in HCMC seems to jump in the US\$480 - \$910 income group. A cross country analysis suggests that the threshold for private car ownership is usually US\$1,000 per capita income.

(c) Reasons for high usage of motorcycle

High usage of motorcycle can be explained by three reasons, i.e. no driver's license obligation, its asset value and convenience (**Table 1.5**).

	Tuble 110 weubons for high Osuge of Motoregene		
Reason	Description		
No driver's	No driver's license is required when driving motorcycle of smaller		
license obligation	than 50cc displacement.		
Asset value	The price of used motorcycle does not depreciate significantly (e.g.		
	USD 2,300 for new one versus USD 2,000 for used one, in the case		
	of the most popular Honda Dream II). Motorcycle holds asset value		
	among others like real estate and gold.		
Convenience	The city area is not still wide enough, so that people can commute		
	almost everywhere easily by motorcycle.		

Table 1.5	Reasons	for	High	Usage	of Motorcycl	e

(3) Decreasing Public Transportation

(a) Deterioration of urban public transportation

Modal shares of public transportation in Hanoi and HCMC were around 25-30% in early 1980's, when there were about 60 bus routes and several tram lines in Hanoi. However, at present the bus transportation usage in Hanoi is considerably low, only 18,000 rider-ship a day. Likewise, the bus transportation usage in HCMC is also very low. The municipal bus companies (Hanoi Bus Company, Saigon Star, Saigon Bus) have limited number of vehicles (**Table 1.6**).

Table 1.7 shows that the number of bus per 1,000 population is just 0.18 (465veh/2.5mil. people: population in the urban districts), which is almost one-fifth of the Singapore's figure in twenty years ago. Thus, the number of routes and service coverage are limited, besides bus stops are located far away from the newly developed residential areas and the quality of bus vehicles are generally very poor. Bus transportation at both cities are now no longer an attractive mode.

Company	Fleet size	Allocation	Ownership
		Scheduleu	
Hanoi	213		
Hanoi Bus Company	196		State-owned
Tram Company	17		State-owned
нсмс			
Saigon Star	43	36	Joint venture
Saigon Bus	43	32	State-owned
Six Cooperatives	379	244	Cooperative (private)
Mini-bus cooperatives	2,577	658	Cooperative (private)

 Table 1.6 Bus Fleet Size and Ownership

Source: Each MOCPT

City	Bus vehicles per 1,000 people	Year	
Bangkok	1.22	1980	
Hong Kong	1.83	1980	
Kuala Lumpur	1.18	1980	
Singapore	2.70	1980	
Jakarta	0.72	1980	
Hanoi	0.16	1997	
HCMC	0.18	1998	

Table 1.7 Number of Bus per Thousand People in Select Asian Cities

Source: Each city's statistic

(b) People's preference to buses

Travel Cost Comparison for Hanoi

The most popular new motorcycle in Viet Nam is Honda Dream II. The price of the new one is around 2,300 US\$. According to the interviews in the field survey of this study, the price of used motorcycles may not differ significantly from that of the new products in the market (the price of used one is around 2,000 US\$). Therefore, a depreciation cost of the motorcycle seems to be negligible.

Since the depreciation cost of motorcycle is valued at mostly zero, the cost to own and run motorcycle is very low in Hanoi, being estimated at 216 VND/km. Thereby, using a motorcycle within a distance of 4.5 km costs lower than buses (1,000VND/trip for regular bus in Hanoi). It indicates that there are no huge volume of bus users within the city center of Hanoi as far as motorcycles are available.

Travel Cost Comparison for HCMC

Fares in HCMC are set on a route by route basis. The fare for non-air conditioned buses varies from 150 to 200 VND/km, while from 200 to 300 VND for air-conditioned buses. Since there is no significant difference between bus and motorcycle in the unit cost, a cost for 10km travel by bus is lower than the motorcycle at 400 VND, which is not attractive enough for people in HCMC to use buss in terms of cost savings (**Figure 1.5**).



Figure 1.5 Bus Fare and Motorcycle Cost

(c) Affordable transportation expenditure

Household income in the city center is relatively high, reaching around 1.5 million VND per month in Hanoi. Comparison between the estimated monthly cost of motorcycle usage (134,800 VND) and average affordable transportation expenditures of a household suggests that most of the households in the central Hanoi can purchase, own and use one motorcycle without significant burden. Likewise, more than 40 % of the households in HCMC can use motorcycles within their disposable expenditure on transportation.

(4) Increasing Traffic Volume and Congestion

As mentioned earlier, both cities will extend their urbanized area outwards as a result of increasing migrated people from rural areas and emerging relocation needs by urban redevelopment from downtown to suburbs. At the same time, several suburban centers will be developed to disperse/relocate the centralized function of the existing urban centers. Thereby, much larger travel demand with longer average travel distances will be expected.

(a) Future Traffic Demand

<u>Hanoi</u>

The total number of daily trips is expected to increase to three times as much as the current travel demand within the next twenty years. The motorcycle trip demand will sharply increase, reaching almost five times as much as the current trip **(Table 1.8)**.

					(1,000 trips/day)
	19	95	20)15	Growth factor
Bicycle	2,606	61.3%	4,183	31.8%	1.6
Motorcycle	1,345	31.6%	6,521	49.6%	4.8
Bus	239	5.6%	1,840	14.0%	7.7
Car	30	0.7%	351	2.7%	11.7
Truck	33	0.8%	264	2.0%	8.0
Total	4,254	100.0%	13,158	100.0%	3.1

 Table 1.8 Predicted Traffic Demand in Hanoi

Note: "With new CBD and With Control" case

Source: The Master Plan of Urban Transportation for Hanoi City (1997), JICA

HCMC

The peak-hour travel demand will be mostly doubled in 2020 **(Table 1.9**). The modal share of car will reach 6.5 %, while that of motorcycle will decrease from 76.5 % to 65.2 %. Since the passenger car unit (pcu) of cars is three to four times as much as that of the motorcycle, the increase of cars in HCMC will bring about much more severe impacts on the traffic congestion. A much faster modal shift to private cars could be expected since domestically produced 4-wheeled vehicles are now available at affordable prices, ranging 7,000 to 10,000 US\$.

					01 /
	1996		20	Growth factor	
Bicycle	118	20.4%	302	25.0%	2.6
Motorcycle	442	76.5%	787	65.2%	1.8
Bus	1	0.2%	7	0.6%	7.0
Car	13	2.2%	78	6.5%	6.0
Truck	4	0.7%	33	2.7%	8.3
Total	578	100.0%	1,207	100.0%	2.1

Table 1.9 Predicted Traffic Demand in HCMC

(1.000 trips/morning peak hour)

Note: "Trend scenario and Do Minimum Network" case

Source: Ho Chi Minh City Transportation Study (1998), DFID

(b) Traffic congestion

The average travel speeds in Hanoi is around under 20km/hr as illustrated in **Figure 1.6** and that of HCMC is 13-26km/hr.⁹ They are slightly higher than those of Jakarta, Kuala Lumpur or Tokyo. In HCMC, the speed of four wheel vehicles has been decreased by 1-8 km/hr in the last three years, while that of motorcycles has been mostly unchanged. It is often pointed out that certain intersections are bottlenecks which causes traffic congestion in both cities.

When the share of four-wheeled vehicle soars further, the situation will become worse and both cities will face up with chaotic traffic congestion as like in Manila or Bangkok.



Source: Each city's statistic Figure 1.6 Average Travel Speed in Major Asian Cities

⁹ According to JICA Study, most of the road in the city has traffic less than the capacity for motorized modes. However, many bicycles on the roads make the traffic speed slower down to 20km/hour. In HCMC, the average speed of motorcycles is 18-20km/hr according to DFID's Study.

1.3 Forthcoming Challenge

(1) Public Transportation Development

Rapid urbanization and increasing population in the already dense city centers and in sprawling suburbs, will cause a huge demand on transportation mode capable of moving a large number of passengers and a huge quantity of freights. Most Asian major cities encountered urbanization and motorization concurrently, while they were equipped with neither enough road space nor LRT/MRT. Therefore, in those cities such transportation demand was unmet, resulting in air pollution, traffic jam and long travel times. In the early stages of traffic management, Asian major cities tried to develop efficient public transportation systems, primarily based on bus transportation. At later stages, the system was upgraded and linked to LRT, and eventually to MRT.

Figure 1.7 and **Table 1.10** illustrate the developmental stage of urban growth and transportation, learned from the experiences of Asian cities. Based on such experiences, Hanoi seems to be at the late stage of the first level, and HCMC at the early stage of the second level. A rail-based system such as LRT and MRT becomes inevitable for both cities in the future. In fact, a pre-feasibility study on the urban rail system in HCMC was conducted in 1997 by a German university.

However, the necessary capital investment for such a railway seems to be far beyond the current financial capability of the government of Viet Nam. In this context, bus transportation should play a vital role meanwhile, and it should be the most cost-effective way for the society. At the same time, to maximize the economic value of the existing transportation infrastructure and to transform the motorcycle-driven society into a more environment friendly one, the TDM method should be examined as one of the urban traffic management tools in both cities.



Figure 1.7 Stages of Transportation Development in Major Asian Cities

	Stage/Level	of Income (per capita city C	GDP in US\$)
Sector	First/Low	Second/Middle	Third/High
Sector	(\$1,000 and less)	(\$1,000-10,000)	(\$10,000 and more)
Economy	 Trade and transportation-oriented , moderate industry Informal sector dominant 	 Increasing industrialized but secondary centers developing Moderate impact of global economy 	 Substantially industrialized but some industries moving to lower-cost locations Strong impact of global economy
Population	- Small, middle class;	- Substantial middle	- Multiple centers
and labor	very young population	class; young population	
City structure	- Single or only a few centers	- Several to multiple centers	- Predominantly formal settlement; redevelopment of city center
Settlement pattern	- Predominantly informal settlement	- Mixed formal and informal settlement – growth of extended metropolitan region	- Private car, bus, and mass transit
Trans-port ation	 Substantial walk and bicycle-to-work; bus transportation predominates Traffic management through road design and intersection control; paratransit dominant Public transportation often subsidized 	 Private car and bus predominate, mass transit being introduced Traffic jams emerging; management involves separation of public and private transportation; introduction of mass rail transit Public transportation profitable; public-private partnerships established 	 Traffic restraint schemes become essential; further development of mass rail transit Fiscal mechanisms used to support traffic restraint
Air pollution	- Severe problems in some cities using soft coal; indoor exposure	- Severe problems from soft coal, manufactur-ing and/or	- Use of clean-burning fuels helps reduce emissions
	tor poor	vehicle emissions	

Table 1.10 Stages and Levels of Development of Metropolis

Note: Bangladesh, India, and Pakistan for first level; People's Republic of China, Indonesia, Philippines, and Thailand for second level; and Japan and Korea for third level.

Source: The Development and Management of Asian Megacities, pp.32-3., ADB (1996)

(2) Infrastructure Development

Rapid motorization will increase traffic demand inevitably in Hanoi and HCMC. To accommodate such an increasing traffic volume, enhancement of road capacity¹⁰ should be considered to help solve further traffic congestion and environmental deterioration.

Both cities have to tackle formidable challenges to develop enough road spaces to absorb the future traffic volumes. Firstly, fund shortage is the most critical issue for the cities of Hanoi and HCMC to improve urban transportation infrastructure. The fund has not been able to keep pace with the increasing demand generated from the drastic increase in the number of motor vehicles. In addition to the fund shortage, there has been another emerging obstacle to the development of road infrastructure, namely land acquisition problem, especially in the case where relocation of people from the development site is required. The compensation cost for those who are relocated pushes up road development cost.

(3) Environmental Management

Air pollution control measures in general include legal framework on emission gas and fuel quality standards, pollution sources control, monitoring system, administrative guidance, taxation, financial support and so forth ¹¹. In Viet Nam, almost all the measures mentioned above should be established or be properly put in effect. Although air pollution is still not serious in Hanoi and HCMC, both cities should be prepared for the emerging environment issues caused by the increasing traffic volume.

It is desirable for both cities to strengthen the monitoring system to obtain baseline data for identification of real pollutants and for comprehensive environmental management plans. Also, economic measures for environmental management should be

considered. A challenge regarding environmental management lies who and how to owe the cost of environmental improvements, and polluter-pays-principle would be the most realistic answer. Financial treatments such as soft loan and preferential taxation are effective tool for enterprises and people to opt more environment-conscious actions.

¹⁰ For effective and efficient road network development, it is a prerequisite that urban land use and transport plans should be formulated in coherent and consistent manner.

¹¹ Besides the direct measures to deal with the sources of transportation pollution, there are other measures such as promotion of modal shift to public transportation in order to reduce the total emission gas from automobiles. Development of better traffic management system and more road capacity are also effective measures to realize faster traveling speed and less emission gas.

Chapter II

Overview and Regulatory Issues of Bus Transportation

This chapter outlines bus transportation services in both cities and examines issues of regulatory framework.

2.1 Overview of Bus Transportation

(1) Hanoi

General

The public bus service in Hanoi was started in 1960 with 28 urban routes. In the early 1980's, the number of buses reached about 500 vehicles, carrying about 50 million passengers per year. After an introduction of the Doi Moi policy, however, the number of routes has been reduced to 13 as of 1997¹, and the capacity has fallen to 7 million passenger per year. An entry proposal for the bus business was made by a Korean conglomerate in the mid 1990's, but was rejected because the authority and the conglomerate could not agree upon the investment scale and fare level etc. There are five public transport modes as follows.

- Public bus: Inner-city service is provided by the municipally owned Hanoi Bus Company under TUPWS. As of 1997, 83 bus vehicles were in operation on 13 routes.
- Private bus: Private bus companies mainly serve inter-provincial long hall routes².
- Taxi: There are about 400 metered taxis. Roughly half of the taxis are owned by the public Hanoi Tourist Car Company, and the balance by private operators. Taxi fares are still too high for the general public (**Table 2.1**).
- Cyclo: Cyclos are run by the private sector, mainly individuals. Cyclo is a popular mode for short distance trip. However, there is no statistical data on the number of cyclos.
- Train: Vietnam National Railways has several lines which originate from inner Hanoi. But the government prohibits daytime operations throughout the inner city. The train operation ends, therefore, at suburban stations like Giap Bat and Gia Lam.

Item	Hanoi Car Company	Private Taxi Operators
Number of Vehicles	~ 200	~ 200
Fare Range	1. US\$0.75 for the first Km, and	1. US\$0.20-0.25 per Km
	US\$0.46 per Km thereafter.	
	2. US\$2.00 for the first Km, and	2. US\$4.00-5.00 per hour
	US\$0.67 per Km thereafter	

<u>Table 2.1 Taxi Fare Ranges in Hanoi</u>

Source: The Master Plan of Urban Transport for Hanoi City," Jan. 1997, JICA

¹ There are said to be 25 urban routes in Hanoi as of December 1998, but the statistical data was not available.

² Hanoi has three inter-city bus terminals. The South Passenger Transportation Company owns Giap Bat and Kim Ma bus terminals, and operates inter-provincial lines to the south and the west. The North Passenger Transportation Company owns Gia Lam bus terminal, and operates inter-provincial lines to the east and to the north.

Bus Fare

The bus fare is 1,000 VND/trip, equivalent to roughly 0.08 US\$ (at an exchange rate of 12,000 VND/1US\$), and a monthly pass is available for students at 15,000 VND.

Bus Routes and Operation

The characteristics of the 13 major bus routes are summarized in **Table 2.2**. The busiest bus routes are No.1, No.2 and No.3, connecting three major inter-city bus terminals. During peak hours, the average number of passengers onboard ranges from 13 to 36.³

	Table w.w(1/w) bus would and operation in franci in 1997								
	Route	Route length (km)	Vehicle (Capacity)	Fare (VND)	Number of Bus Vehicles				
1	Yen Phu – Ha Dong	11.6	Karosa (90)	1,000	14				
2	Bac Co – Ha Dong	12.3	Karosa (90)	1,000	14				
3	Giap Bat – Gia Lam	12.6	Karosa (90)	1,000	18				
4	Long Bien – Duoi Ca	9.5	PAZ (54)	1,000	4				
5	PC Chinh - Khon	13.8	W50 IFA (60)	1,000	3				
6	Long Bien – Ngoc Hoi	16.1	W50 IFA (60)	1,000	3				
7	Bo Ho – Uni. Commerce	9	Hyundai (26)	2,500	4				
8	Bo Ho – Mo – Long Bien	5.8	Hyundai (26)	2,500	4				
9	Long Bien – Cau Bieu	14.4	PAZ (54)	1,000	3				
10	Bac Co – Yen Vien	9.5	W50 IFA (60)	1,000	3				
11	Kim Kien – Phu Thuy	19.5	W50 IFA (60)	1,000	3				
12	Giap Bat – Kim Ma	8.3	Hyundai (26)	2,500	5				
13	Ba Ho – Nghia Do	7.4	Hyundai (26)	2,500	5				
	Total	149.8			83				

Tahla 9 9((1/2) 1	Rus	Route	and	Onerati	on in	Hanoi	in	1997
I able 2.20	1/2/1	DUS	Route	anu	Operati	оп тп	папог	111	1997

Source: Master Plan of Public Passenger Transportation Management in Hanoi 1998–2000, 1997, HPC

Table 2.2(2/2) Bus Route and Operation in Hanoi in 1997

	Route	Total run /day	Peak-hour	Daily Passenger	Average loading
		(one direction)	headway	(both direction)	rate
			(minutes)		(passenger*km/
					capacity*km)
1	Yen Phu – Ha Dong	54	10.0	4,860	26.7%
2	Bac Co – Ha Dong	54	10.0	4,752	26.0%
3	Giap Bat – Gia Lam	72	10.0	5,472	22.4%
4	Long Bien – Duoi Ca	20	30.0	320	8.6%
5	PC Chinh - Khon	16	30.0	480	14.0%
6	Long Bien – Ngoc Hoi	16	15.0	192	5.7%
7	Bo Ho – Uni. Commerce	20	30.0	160	8.9%
8	Bo Ho – Mo – Long Bien	20	20.0	320	17.8%
9	Long Bien – Cau Bieu	12	45.0	144	7.3%
10	Bac Co – Yen Vien	15	30.0	300	7.8%
11	Kim Kien – Phu Thuy	7	15.0	140	11.7%
12	Giap Bat – Kim Ma	25	25.0	350	21.8%
13	Ba Ho – Nghia Do	25	25.0	400	17.9%
	Total			17,890	

Source: Master Plan of Public Passenger Transportation Management in Hanoi 1998–2000, 1997, HPC

³ This figure was obtained from the 1995 operation results.

(2) HCMC

General

Bus transportation services in HCMC were provided by two companies before 1992. One is the Saigon Traveling Bus Company, which operated mainly in the urban area. The other is the HCMC Bus Company, which provided services mainly to surrounding towns. Both companies were heavily subsidized like other bus companies in the country. After the introduction of Doi Moi policy, the state-owned enterprises have had to become more self-accounting which generated big challenges for the public bus companies.

The HCMC Bus Company was disbanded in 1992, and its assets were transferred to five private cooperatives to take over the operations. The Saigon Traveling Bus Company, which was the only state-owned bus enterprise in HCMC, was renamed as the Saigon Bus Company in 1992. The Saigon Bus Company formed a joint venture company named Saigon Star Transport J.V. with an Australian investor in 1993, and it started the operation on four urban routes. But the joint venture was disbanded in 1997 when the Australian partner withdrew. HCMC has five public transportation modes as follows.

- Bus: There were about 465 buses in 1998, which operated on 30 routes.
- Lambro⁴: It is estimated that there are about 2,200 registered Lambros, however, only about half of them are actually operational on the daily basis.
- Bon Benh⁵: There are four Bon Benh cooperatives with a total of 593 vehicles.
- Taxi: There were 14 companies in 1998 with a stock of some 4,000 vehicles. Fares vary among companies, but the average was recorded at about 6,000 VND for the first 1km.
- Cyclo: It is estimated that there are about 50,000 licensed cyclos. Cyclos are banned on certain streets in the city center.

Bus Fare

Operators set up fares on a route by route basis in accordance with an agreement with TUPWS. Fare structures follow the guideline as summarized in **Table 2.3**.

Route type	Service type	Fare per km (VND/km)
Urban bus route	Non-air conditioned	150 - 200
	Air conditioned	200 - 300
Suburban bus route	Non-air conditioned	100
Lambro routes	Non-air conditioned	200 - 300

 Table 2.3 Public Transportation Fare Levels in HCMC

Source: Ho Chi Minh City Transport Study Draft Final Report, 1998, DFID

Bus Routes and Operation

The characteristics of the bus and Lambro and Bon Benh routes are summarized in **Table 2.4**. There are 110 bus routes registered in MOCPT as of 1998, however these bus routes were planed in 1975. Middle and large sized buses are operated on 25 routes as

⁴ Lambro: 3-wheeled vehicles with longitudinal seating on fixed routes.

⁵ Bon Benh: This vehicle is similar to the lambro in size, operating on fixed routes (4-wheeled vehicle).

shown in **Table 2.4 (2/3)**. On the most routes, Lambro and Bon Benh are operated on demand. There are seven air conditioned services operated by the minibuses (25 seats) and the microbuses (12 seats). The majority of the full size buses (55 seats) operate longer routes.

Buses	Allocation	Fleet Size	Passenger/day
	Scheduled	(veh.)	
	(veh.)		
Saigon Star Joint Venture	36	43	9,567
Quyet Thang Cooperative	44	64	10,405
Quyet Tam Cooperative	34	34	7,250
Quyet Tien Cooperative	32	60	6,900
Binh Minh Cooperative	48	59	9,955
Rang Dong Cooperative	30	35	8,310
19/5 Cooperative	56	127	13,860
Sai Gon Bus Company	32	43	5,760
TOTAL	312	465	72.007

Table 2.4 (1/3) Bus Route and Operation in HCMC in 1998

Source: Ho Chi Minh City Transport Study Draft Final Report, 1998, DFID

	Bus Company	Route	Fleet Size	Length of	One-way	Avg. Travel	Hours	Fare range
		No.	per Route	Route	travel	Speed	of Oper.	
			(veh.)	(km)	time	(kph)	per Day	
					(min)			
1	Saigon Star	1	15	9	25	22	17	2000-3000
		2	10	12	40	18	15	3000-4000
		3	8	12	40	18	15	2000-3000
		4	10	14	40	21	15	3000-4000
2	Saigon Bus	7	10	12	50	14	17	2000-3000
		17	7	13	50	16	17	2000-3000
		26	12	13	50	16	19	2000-3000
		27	7	12	40	18	19	2000-3000
		28	6	8	40	12	18	2000
		29	5	7	40	12	18	2000
3	Quyet Thang	5	8	36	90	24	17	2000-5000
		6	24	22	70	19	17	1000-3000
		8	28	26	70	22	17	1000-3500
4	Quyet Tam	9	16	25	70	22	18	1000-3000
		10	11	15	90	10	17	1000-2500
		25	3	30	60	30		1000-3500
5	Quyet Tien	11		12			17	2000
		12		31			17	3000-5000
		13(31)		36			17	3000-5000
6	Binh Minh	14	21	18	55	20	18	2000-3500
		16	10	14	50	17	17	2000-3000
7	Rang Dong	18	8	15	50	18	17	1500-3000
		19	9	15	50	18	17	1500-3000
		20	13	16	60	16	18	1000-3000

Table 2.4 (2/3) Bus Route and Operation in HCMC in 1998

Source: Ho Chi Minh City Transport Study Draft Final Report, 1998, DFID

City Managed Mini Bus (Lambro and Bon Banh)	Allocation	Fleet Size	Passenger/day
	Scheduled	(veh.)	
Hung Dao Cooperative	32	135	4,032
Ba Chieu - Cho Lon Cooperative	22	110	980
Bay Hien – Ba Chieu Cooperative	26	112	3,136
Cooperative 05	18	219	2,560
Cooperative 07	28	113	2,694
Cooperative 08	20	52	2,688
Cooperative 09	8	40	1,344
Cooperative 10	50	113	4,032
Cooperative 11	14	31	1,440
Cooperative 12	34	152	3,840
Cooperative 13	22	127	3,808
Cooperative 14	64	172	6,840
Cooperative 15	86	71	1,530
Cooperative 16	42	115	6,720
Cooperative 17	16	198	1,104
Cooperative 19	16	91	2,688
Cooperative 20	8	30	1,344
Cooperative 21	8	63	1,344
Cooperative 22	16	45	1,760
Cooperative 25	32	110	4,160
Cooperative 26	38	75	4,220
Cooperative 27	10	73	1,344
Cooperative 28	34	167	4,480
Cooperative 30	14	163	1,300
TOTAL	658	2,577	69,388

Table 2.4 ((3/3) Bu	s Route an	d Operation	in	HCMC in	1998
--------------------	----------	------------	-------------	----	---------	------

•

Source: Ho Chi Minh City Transport Study Draft Final Report, 1998, DFID

2.2 Regulatory Framework

Quality and quantity of bus services in both cities have deteriorated for years. Several reasons for this deterioration can be found in the field of traffic engineering and urban planning on one hand, and in its regulatory and institutional aspects on the other hand. Since the transportation studies by JICA and DFID have already focused on the former field, this study addresses the latter.

(1) Relevant Authorities

The Decision No.3385QD/PC-VT of MOT issued on 23rd December, 1996, among others, provides for the most comprehensive regulations on BPPT⁶. There are five entities involved in BPPT service delivery; namely, 1) MOT, 2) People's Committee of a province or a city, 3) TUPWS or Transport Department under each People's Committee, 4) MOCPT under each TUWPS or Transport Department, and 5) operators.

In addition, MPI, HAPI and DPI assess and authorize capital investment projects. Role of MOT

MOT shall approve a BPPT project proposed by TUPWS or Transport Department after written comments from the People's Committee of provinces and cities (Article 6). <u>Role of People's Committee</u>

The People's Committee of provinces and cities shall instruct and guide BPPT operators, in conformity with the laws, by determining fare rates, opening and closing bus routes, approval of operation schedule, regulating compensation for the loss (Article 4). Role of TUPWS

The General Directors of TUPWS or Transport Department shall be fully responsible to MOT and Chairman of People's Committees of provinces and cities (Article 5-2). Role of the MOCPT

The MOCPT shall be responsible for supervising the performance of contracts signed between the MOCPT and BPPT organizations, especially implementation of the regulations on bus routes, operation schedule, service quality and fare level (Article 19-2). The provinces and cities need to establish a MOCPT in order to manage, control and coordinate activities of organizations and individuals involved in BPPT (Article 16). Conditions for establishment of MOCPT is that the number of buses used for BPPT is over 100 and the number of operators is over three (Article 17). In a more concrete term, the regulations for HCMC's MOCPT (**Figure 2.1**), for example, indicate the followings as its functions and duties.

- Management of public transportation, including making infrastructure plans, investment plans for public transport, route plans, adjustment of inappropriate routes, bus depot, bus stops, central monitoring station, passenger transit terminals, communication system, etc.
- Monitoring public transportation, including inspection of service quality, routes,

⁶ BPPT is defined as a mean of transport with charges, operating under a regulated schedule and route, in order to serve daily travel demand in large cities and residential areas (Article 1).

frequency, etc.

Making proposals on policies, fare level, transport tariff, parking fee, regulations on public transport, and submitting them to the People's Committee.



Source: MOCPT, HCMC

Figure 2.1 Organizational Chart of HCMC's MOCPT

(2) Entering Bus Business

(a) Requirements for BPPT project

Article 8 of the Decision No.3385QD/PC-VT defines requirements for a BPPT project as follows:

- Fixed routes, terminals and fixed bus stops within the city area or concentrated residential area,
- Bus operation in accordance with determined operation schedule, ensuring 35 minutes headway during peak hours and 10-20 minutes during off-peak hours, and
- A potential travel demand made by a population of 100, 000 people.

(b) Obligations to obtain approval

A candidate bus operator must clear two major obligations to obtain an approval for the bus business. One is the compliance with the Decision No. 3385/QD/PC-VT, and the other is that with the operation plan by TUPWS or Transport Department defining, among others, routes, frequency and fare level

Also, the candidate must comply with Business Laws, Cooperative Laws, and must meet all requirements on technical safety and sector standards for the public transportation. Sufficient number of vehicles to meet the demand is usually required too.

(c) Necessary procedures

Figure 2.2 exhibits necessary procedures to obtain an approval for the bus business. The explanation of numerals in the Figure is as follows.

1: Instruction and guidance on project formation.

- 2: Application for entering bus operation (Decision No.3385/QD/PC-VT).
- 3: Asking opinions of the People's Committee.
- 4: Submitting written opinions to MOT
- 5: Within 30 days after receiving the documents, MOT shall directly approve the project and issue an official response letter to the People's Committee.
- 6: Contract between MOCPT and the company.



Note: Duties were transfered to the Center based on Decision No. 2424/QD-GTCC (October, 1998)

Source: Interview with MOCPT, HPC

Figure 2.2 Procedure to Obtain Approval of Bus Operation

(3) Licensing

While there is not any clear statement on the license holder's right, the past practice has been that once a route is awarded to a bus company, no other companies is eligible to serve the route to compete. In the case of HCMC, the individual bus owners within a cooperative are entitled to sell their licenses, but there is no real market for such licenses. One of the cooperatives estimated that the license could cost as much as 90 million VND (USD 6,430)⁷.

⁷ Source: MVA Consultancy, Maunsell, Transport Research Laboratory (TRL), Transport Economic and Scientific Institute (TESI); "Ho Chi Minh City Transport Study," Interim Report, Viet Nam, March, 1998

(4) Operational Regulations

Article 18 of the Decision No.3385/QD/PC-VT stipulates as follows that bus operators are not allowed to decide the fare level, instead it is strictly controlled or affected by the opinion of the People's Committee.

- The Transport Department or TUPWS shall submit their decisions on route opening and closing, fare level and operation schedule to the People's Committee.
- MOCPT shall submit a report on periodical travel demand to Transport Department or TUPWS.
- A contract between the representative of MOCPT and organizations and individuals being engaged in BPPT shall be signed on the basis of tender result or appointment by Transport Department or TUPWS.

(5) Taxation

The bus companies pay the following taxes and charges; 120 % import tax on vehicles, 45% tax on spare parts, Seat tax of 1,000 VND/seat/month, Land tax of 1,500 VND/m²/year, and 4.8% tax on total capital employed (land, buildings and buses).

Article 5-3 of the Decision No.3385/QD/PC-VT allows the BPPT operators to be exempted from import tax and special consumption tax. Utilization period for buses, which is calculated from import date, must be at least ten years for new vehicles and five years for second-hand vehicles. If, during amortization, the buses are used for purposes other than BPPT or resold to other owners not being engaged in BPPT business, the seller shall be entitled to import tax and special consumption tax corresponding with its remaining value.

In addition, discussion on and examination of further preferential treatments among relevant ministries are also encouraged by a number of governmental documents as shown in **Figure 2.3**.



1: The PM's decision on preferential policy on public passenger transport services in cities.

- 2: Report to the PM from MOT (Doc. No. 1876/GTVT-PCVT 19th June
- 3: Recommendations from MOF (Doc. No 2454/TC-CSTC, 16th July,1998)
- 4: Recommendation from MPI (Doc. No. 4919/BHK-CSHT-TC, 17th July, 1998)
- 5: Report to the PM from MOT (Doc. No. 2619/GTVT-PCVT, 22 August, 1998) and a Draft of Revised PM's decision

Source: Each relevant document mentioned in the Figure

Figure 2.3 Inter-ministerial Negotiation Structure on Preferential Treatment

(6) Subsidization

Subsidy amount is calculated by a vehicle-kilometer basis and provided with the public sector-owned companies, while it is unavailable for the private operators and the public-private J.V.. **Figure 2.4** shows an example of approval procedures for the subsidy in Hanoi (**Table 2.5 and 2.6**). The explanation of numerals in the Figure is as follows.

- 1: Subsidy amount estimation based upon the operation plan approved by TUPWS.
- 2: Agreement regarding the subsidy amount estimation among the relevant parties.
- 3: Minutes of Acceptance between PMU and the Hanoi Bus Company.
- 4: PMU issues a letter requesting Pricing and Financial Department (the State Treasury of Hanoi City) to transfer the necessary amount to the account of PMU.
- 5: Contract between the MOCPT and the Hanoi Bus Company: MOCPT dispatches a supervisor for inspection of the agreement and coordination with the company.
- 6: Subsidy Payment: 30% of the contract amount is paid after signing the contract and the remainder is paid according to the operational performance.



Note: Duties were transfered to the Center based on Decision No. 2424/QD-GTCC (October, 1998)

Source: Interview at the Center for Public Transport Management and Operation, Hanoi

Figure 2.4 General Procedure for Subsidization

Tuble Rie Subsitu J Duuget et ill e fer Dus operation						
Year	Budget	USD	Number	Average		
	(billion	equivalent	of buses	subsidy per		
	VND)	(million)		vehicle		
				(USD)		
1997	8.5	0.61				
1998 (estimates)	9.0	0.64	292	2,200		

Table 2.5 Subsidy Budget of HPC for Bus Operation

Source: Official Letter No.2215/VT-CN of September 22, 1998, TUPWS, HANOI

No	Subsidized Routes	Planned vehicle runs	Unit price (VND)	Estimated subsidy (1,000	Estimated subsidy (USD)
				VND)	
1	Yen Phu - Ha Dong	9,752	35,605	347,220	24,801
2	Bac Co - Ha Dong	9,752	39,053	380,845	27,203
3	Duoi Ca - Long Bien	3,680	25,414	93,524	6,680
4	Long Bien – Cau Bieu	1,840	47,536	87,466	6,248
5	Bac Co - Yen Bien	1,840	42,017	77,311	5,522
6	Long Bien – Thuong Tin	1,840	67,928	124,988	8,928
7	Phan Chu Trinh – Troi	1,840	49,120	90,381	6,456
8	Kim Lien - Phu Thuy	1,288	62,390	80,358	5,740
9	Long Bien - Van Dien	3,680	29,953	110,227	7,873
10	Giap Bat - Kim Ma	4,600	23,702	109,029	7,788
11	Bow Ho - Nghia Do	4,600	11,110	51,106	3,650
12	Bo Ho – Dien	4,048	12,866	52,082	3,720
13	Bo Ho - Yen Lang	2,760	34,478	95,159	6,797
14	Giap Bat - Dichj Vong	4,600	28,752	132,259	9,447
15	Long Bien – Phu Lo	2,208	94,713	209,126	14,938
16	Giap Bat - Gia Lam	300	74,000	22,200	1,586
	Total	58,628	678,637	2,063,281	147,377

Table 2.6 Estimated Subsidy for HBC in the 4th Quarter, 1998

Source: A letter to TUPWS from Hanoi Bus Company dated 11th April 1997

2.3 Regulatory Issues

(1) Issues Identified by MOT

The Ministry of Transport (MOT) has reported, in the Letter No.2619/GTVT-PCVT on August 22, 1998, the following obstacles to the promotion of public transportation.

(a) Too many government's documents

MOF has issued several instruction documents listed in the right box. In addition, HCMC People's Committee has five regulating documents, while HPC has not issued any instructing documents yet. Insufficient coordination was made among those governmental bodies.

(b) Inconsistency in incentive policy

Although MOF introduced in 1996 the incentive policy for promotion of the

Letter No. 6329/KTTH (4th November, 1995) Announcement No. 164/TB (30th December, 1995) Letter No. 980/KTTH (5th march, 1996) Letter No. 3060/KTTH (26th June, 1996) Letter No. 5028/KTTH (7th October, 1996) Directive No.236/TTg (11th April, 1997) Letter No. 385/CP-KTTH (7th April, 1998) Decision No. 40/QD-TTg (18th February, 1998)

bus business valid two years (1996–1997), there is no new instruction documents available in 1998 and thereafter. Bus operators are therefore confused in the policy application.

(c) Additional taxes

The law on value added tax and enterprises' income tax may affect badly the existing preferential policy for the public transportation business to some extent.

(d) Responsibility of municipalities

The role of public transportation in large cities is not clearly recognized, and the responsibility of municipalities is not clearly defined.

(2) Issues Identified by the Study

Bus business generally has a competitive and contestable nature that provides an easy access for the private sector to enter into the market. In both cities, however, the public sector plays a dominant role as regulator-operator. The present regulatory framework is designed mainly for the municipal bus companies. It seems to be no longer attractive enough for domestic and foreign private investors, and holds the following issues in the light of the private investment.

(a) Unclear and complicated procedures

As shown in **Figure 2.2**, a candidate for bus operator should at first consult with MOCPT under TUPWS before submitting a proposal addressed to MOT. Then MOCPT shall transfer the letter together with necessary documents to the People's Committee through TUPWS and HAPI or DPI, after which the Committee submits a comment on the proposal to MOT. After every procedure is cleared, then the contract is finally signed between MOCTP and the operator. The authorization is processed throughout too many authorities, namely MOCPT, TUPWS, HAPI/DPI, People's Committees, MOT and MPI. Besides the relevant regulations don't strictly define who evaluates what with what criteria. Those unclear and complicated procedures make potential investors, especially large or foreign

investors, hesitate to enter into the bus business.

(b) Huge capital investment requirement

Since a potential bus operator is generally required to prepare a large number of buses (100 to 300 vehicles) by the authority, the necessary scale of capital investment to commence the bus business is considerably expensive. Such a requirement is not always enforced, but it eventually imposes harder hurdle even for small-scale operators who are very active at suburban and inter-city routes. The winner is the incumbent, whereas the loser is the potential user who can not benefit from additional services that had to be provided by the newcomer operator.

(c) Non negligible sunk cost

Several tax duties including import tax and special consumption tax on bus vehicles are exempted or reduced, as far as the vehicles are used for the public transportation purpose. However, when an owner sells the vehicles to someone else engaged in another business or uses them for other purposes like sightseeing tour, it should pay the duties corresponding with the remaining asset values (maximum 120% of the price). On the ground that there is no good secondary market for used bus vehicles, it is rather difficult for the operators to go out of the business without losing substantial sunk cost.

(d) Limited operational autonomy

Almost every aspect of the operation is determined by the authority, and even small-sized transportation modes such as Lambro should follow the fixed operation routes. There is very little autonomy for the operator to improve service level, e.g. routes, operation hours, frequency etc., by its own initiative in flexibly corresponding to demands. Detailed data on the distribution of population, household income and commuting destinations etc. is unobtainable or quite limited even for the authority, so it must not be always superior to the operator in deciding the service level, and in finding and meeting the customer needs. **(e) Rigid fare regulation**

The fare level is regulated at 1,000 VND per trip for non air-conditioned buses in Hanoi. The authority tries to keep the fare level lower as possible for political and social reasons such as transportation access for the general public, particularly urban poor. But lower fare level results in lower profitability, and lower profitability discourages investments to the bus business and shrinks the bus service delivery consequently. Such a rigid fare regulation seems to bring about downturn spiral. Deregulation of fare level⁸ must be explored to attract both public and private investments to the bus business, otherwise the bus transportation might get shrunk further.

(f) Ineffective subsidization

Subsidy is provided on a vehicle-kilometer basis to the publicly-owned companies to offset the operational losses as already shown in **Table 2.6**. In other words, the authority

⁸ A simple financial analysis indicates that if a new operator starts its bus business with a new bus vehicle of 20,000 USD, running 5km distance route, making ten round trips a day, carrying the current level of passenger demand, and the fare is fixed at 1,000 VND per trip, no profit can be derived from this business. If only the fare is doubled, the benefit-cost ratio exceeds 1.0 slightly and the business becomes sustainable.

(TUPWS) subsidizes its subsidiary, the municipal bus company. This scheme, however, gives an incentive for the subsidiary not to cut the operational cost and provide better services, but rather to just follow the operational specifications stated in the contract to enjoy the subsidy. What is worse still, the operation plan is drawn and approved on the premises that the operator would receive the subsidy, so the subsidization budget might set limit on scale of the bus service. As the subsidization budget curtails, the frequency and routes provided decrease accordingly.

Chapter III

Measures for Regulatory Improvements of Bus Transportation

This chapter reviews policy instruments adopted or proposed by the Vietnamese authorities, and recommends the regulatory improvements for the promotion of public transportation.

3.1 Policy Instruments by Vietnamese Authorities

(1) The Prime Minister's Directive

The Prime Minister ordered the People's Committees of Hanoi and HCMC to further develop the urban bus transportation by the Directive No. 236/TTg of the Prime Minister, 11th April, 1997. The Directive can be outlined as follows.

- The People's Committees of Hanoi and HCMC should elaborate plans for the bus transportation, including bus stops location, timetable for each route, coordination program among bus operators.
- The People's Committees of Hanoi and HCMC should develop plans for taxi transportation, including parking spaces and coordination program between buses and taxis.
- The People's Committees of Hanoi and HCMC should encourage all domestic resources, in particular public and state-owned enterprises, to enter into the bus transportation business.
- Foreign joint-ventures are permitted to begin the business, as far as the benefits of Vietnamese side are ensured.
- MOF should coordinate with MOT and the People's Committees of Hanoi and HCMC in formulating financial policies to minimize a subsidy from the state budget.
- The People's Committees of Hanoi and HCMC are allowed to surcharge extra levies for motorcycles and private cars and to examine some regulatory measures on taxi operation, in order to acquire more financial resources for subsidization to the public transportation.
- MOF should formulate a preferential tax treatment to attract all economic sectors into the bus transportation business in the cities.
- The People's Committees of Hanoi and HCMC should establish centers for urban transportation management and operation under the guidance of MOT, and the centers are managed as profit-making organizations.
- MOF should coordinate with MOT and the People's Committees in carrying out a study on formulation of a company under the centers, in order to mobilize fund sources for purchasing buses.

(2) Proposals by Both Cities

In accordance with the Decision of the MOT No.3385QD/PC-VT, each TUPWS of Hanoi and HCMC has proposed, to the respective People's Committee and MOT, policy instruments for the bus operators (**Table 3.1**). TUPWS of HCMC also proposes to establish "Development Fund for Public Transportation¹." These instruments call for vehicle procurement by ODA, reduction of tax and levy for the municipal bus companies etc., and seem to aim at enlarging the preferential treatments for the municipal bus companies under the current regulatory framework.

Itam	Drepagel by TUDWS Hangi	Drenegal by TUDWS UCMC
	Proposal by TUPWS, Hanol	Proposal by TUPWS, HCMC
Vehicle	Establishing a bus leasehold entity	Allowing vehicle supplier for
purchasing	to reduce financial burden of the	monopolistic business, if it provides
	operators.	payment in installment of 7 to 10
	 Buying domestic vehicles (Hoa 	years at the interest rate of $5-7$ %.
	Binh Motor, Hanoi Motor, etc.) at	
	less expensive prices.	
Soft loans for	 Domestic soft loans. 	 Loan from the state budget for
purchasing bus	 Grant aid and export/import credits 	capital investment with interest rate
vehicles	guaranteed by the Government.	of 0%.
	 Japanese ODA 	■ Japanese ODA loan with interest
		rate of 0.75%.
Infrastructure	 Allocation of the state budget for 	 Governmental capital investment for
development by	construction of depots, bus stops	terminals, shelter, bus stops,
the government	and parking space.	opera-tion stations (Cho Lon, Gia
0		Dinh), garages and depots (23,000
		m^2)
Affordable Fare	■ 1,000–1,500 VND/trip	Reduce by 50% of the current rates to
Level	■ 30,000 VND/month	1,000 VND/trip (less than 15km) and
		2,000 VND/trip (over 15km).
Subsidy	■ Subsidy in accordance with the	Procedures for enjoying tax
5	volume of passenger-kilometers	exemp-tion should be simple: Once
	with a ratio not more than 45% of	the contract on bus operation is
	the total approved cost.	signed with MOCPT. the operators do
	■ Source of subsidy is surcharges for	not need to submit their application
	motorcycle of 100.000 VND p.a.	for tax exemption to MOT and MOF.
	and car of 2.500.000 VND p.a.	The People's Committee of HCMC
		should be the final authority for this
		task
Tax exemption	■ 100 % import tax exemption.	■ 100 % import tax exemption.
c	Business tax exemption.	Duration of the current tax
	 Land use tax exemption for depots 	exemption should be extended from
	workshop etc	one year to 8-10 years
	workshop etc.	one year to o to years.

Table 3.1 Proposed Policy Instruments for Bus Operators

¹ Objectives of the Fund can be twofold. One is to subsidize the public transportation operation for the opening of new routes that have a few passengers at the initial stage, the reduction of fare level to encourage people to use the public transportation modes, and the provision of preferential treatments with pupils, students and employees. The other is to develop relevant infrastructure, for example, shelters, bus stops and depots, which contributes to bus transportation. Sources for the Fund include environmental fee to be imposed on motorized vehicles to discourage vehicle ownership, advertisement fee on shelters and bus stops, parking charge, taxi revenue and its profit tax, and sales tax on new taxis.

	 Capital use tax exemption for the state-owned enterprises. 100% revenue tax exemption. Profit tax exemption. 	 12 seat vehicles should be included into the tax exemption scheme (Buses of over 15 seats are beneficiaries of the current scheme). Revenue tax and profit tax should be exempted at 100%. License tax should be paid by each enterprise, not by each vehicle base.
Levy exemption	 50% reduction of registration fees, and 100 % exemption of bridge and road tolls and parking fees. Transportation fee (levied on petrol consumption) exemption: Financial body should refund the amount of transportation fee in accordance with the volume of fuel used. Bus depot use fee exemption Bridge toll exemption 	100% exemption of bridge and road tolls, parking charges in inter-provincial depots. (Official Letter No.5392/UB-QLDT of HCMC, 15 th December 1997)
Remove other competitor	 Remove/prohibit other public transport means (tuk tuk and cyclo) in the urban area. 	
Others	 Allowing transportation companies to undertake other business activities to reduce the amount of subsidy. 	Establishment of "Development Fund for Public Transportation."

Source: Each TUPWS of Hanoi and HCMC

3.2 Recommendations

(1) Regulatory Improvements

Meeting the public transportation needs only by the public sector could not solve the present regulatory issues and would not develop the bus transportation market in the future. Policy shift from the public monopoly to the deregulated competition among various operators, especially private companies, is necessary for the promotion of bus transportation in both cities. In order to promote the private investment to the bus business, the regulatory improvements must be examined to create a business-friendly environment, under which the private sector can operate flexibly and compete for better service. This study, therefore, recommends to redesign the regulatory framework under the following concepts for increased clarity, flexibility and efficiency.

(a) Simplified and clarified procedure

The operator (municipal bus company) and the regulator (MOCPT) must not be under the same authority (TUPWS), to secure the fair competition between the incumbent and the newcomer. MOCPT should be separated from TUPWS and vested with much authority to simplify the procedures and to clarify who is responsible for what in evaluating business proposals. In HCMC where a lot of cooperatives are running Bon Benhs mainly on suburban routes, a candidate investor whose equity is less than 10 million VND, or approximately 750 US\$, needs only to apply for and acquire an approval from TUPWS through MOCPT. An application of this treatment to much larger investors should be explored in order to simplify the procedures in HCMC as well as Hanoi.

(b) Lowered capital investment requirement

Making an entry hurdle higher by any means to the investors discourage new service providers. Huge capital investment requirement should be lowered or repealed for an easy entry to the bus business, so that the new, additional and upgraded services are offered to the potential users who have neither access nor preference use bus transportation at present. In Asian cities such as Hong Kong, Manila and Bangkok, many small-sized operators only with a few buses carry a significant number of passengers. They are good at finding the potential market needs and expanding services in a flexible manner, although the coordination on routes and schedules is sometimes required among the small-sized operators or between them and the dominant operator. The expansion of bus services must come first in Hanoi and HCMC, rather than well conceived route and schedule planning or anxieties for destructive competition.

(c) Increased operational autonomy

The operator must be given a greater operational autonomy for flexible service delivery. The operator needs not apply for an approval on, but should notify of, every little operational aspect, e.g. route, operation hour, and frequency etc. When a newcomer opens a new bus route, for example, no one is able to forecast the demand perfectly even though some estimation may be prepared. Likewise, the authority does not always have superior information than operators in deciding service level. Rather, the private operators in general are good at exploring the potential demands and unmet market needs.

(d) Deregulated fare control

To make the bus business attractive enough for the private sector, the maximum fare level could be raised with an introduction of the price-cap control, under which operator is allowed to set the fare level flexibly below the maximum². Otherwise, bus transportation might get shrunk further without capturing new private investments. Enhanced competition and contestability also enforce operators to keep the fare level competitive. The fare control can be deregulated even now in both cities, because the operators can not set the fare too high to compete with the popular and convenient motorcycles. Generally, operators in the market knows better than the authority about the user's affordability and price elasticity to the bus transportation.

(e) Rationalized subsidization

Subsidy must not deprive operators of an incentive to become cost-effective. Receiver s of subsidy should compete for either better service quality under the same subsidy amount or lesser amount keeping the same quality. At the same time, the necessity of subsidization as well as its amount must be recalculated and verified in a route-by-route or area-by-area basis. Subsidy must go to unprofitable routes to make those routes sustainable, but not to every routes. As far as a necessary route can be sustained with the subsidy, private operators may be eligible to compete for the subsidy. Competition for the subsidy between the public and private operators will procure the value for money.

(2) Pilot Project

Since the most people in both cities prefer private transportation modes and have no or few experiences to use the bus services, it would be very difficult to alter entrenched behavior patterns without publicizing how the bus services benefit them. The public involvement is inevitable to change the public perception of the bus service, in addition to the regulatory and institutional improvements and the transportation infrastructure development. Pilot projects, such as bus-dedicated lanes with limited-terms in selected routes, could be very effective demonstrating usefulness of the bus service for the citizens, marketability for the investors, and policy directions of the People's Committees for both.

The objectives of the pilot project may include:

- To disseminate the governments' strong intention for the improvements of bus transportation;
- To identify problems of the current bus transport services from the users' viewpoint, taking a market research approach;
- To make the people be interested in the bus transportation through participatory planning and evaluation process;
- To improve capability of the staff of the authorities and the operators; and

² The maximum is usually set to increase by the same rate with RPI, with considering some economic (not political or social) factors such as incentives for efficiency gains and capital investment to adjust the rate.

■ To obtain information and data to better examine the introduction of traffic engineering measures and TDM instruments, such as the conventional trunk bus system³ as shown in **Figures 3.1**, in the near future.

The routing images of the pilot project of the bus-dedicated lane in Hanoi and HCMC are exhibited in, respectively, **Figure 3.2** and **Figure 3.3**. Lessons to be learned from the pilot projects will help materialize the regulatory improvements and hence promote the public transportation.

³ The trunk bus system has railway-like characteristics and offers a frequent service in a certain fixed route. An example of the trunk bus system employed in Nagoya, Japan is shown in Figure 3.1. Buses run through exclusive lanes in the midth of the roadway, which are separated from the lanes for other vehicles. Since buses run the dedicated space, conflicts between buses and access traffics to building alongside the streets are avoidable. Buses stop for passengers' embarkation and disembarkation at designated bus stops and bus terminals. Interval of bus stops is around 1.0 km to 1.5 km, which is longer than usual for conventional operations.



Source: Brochure of Nagoya City Figure 3.1 Example of Trunk Bus system



Figure 3.2 Routing Image of Pilot Project in Hanoi



Figure 3.3 Routing Image of Pilot Project in HCMC

Bibliography

- Allport, Roger J. (1996), "Transport Management: Private Demands and Public Needs, Chap. in Magacity Management in the Asian and Pacific Region, Vol. 1, ed. Jeffrey R. Stubbs and Giles Clarke, Manila
- ADB (1989), Review of the Scope for Bank Assistance to Urban Transport, Manila
- ADB (1996a), The Development and Management of Asian Megacities, Annual Report 1996, Manila
- ADB (1996b), The Future of Asian Cities, ed. Jeffrey R. Stubbs, Manila
- DFID (1998), Ho Chi Minh City Transport Study, Draft Final Report, Viet Nam
- Doi, Masayuki (1992), "Hattentojoukoku no koutsuu keizairon," *Transportation Economics in Developing Countries*, Toyo Keizai Sinpou, Tokyo
- Dresden Combined Technical University (1997), *Pre-Feasibility Study: Transport Construction and Reinforcement System HCMC*, Summary, HCMC
- Gwillianm, Kenneth M, and Amarak M. Shalizi (1997), *Road Funds, User Charges and Taxes*, TWU papers No. 26, WB, Washington, D.C.
- HCMC People's Committee (1998a), Adjusted Mater Plan 2020, HCMC
- HCMC-TUPWS (1998b), Feasibility Study on Urban Transport Environment Improvement Project in Ho Chi Minh City in Viet Nam, HCMC
- HPC (1997), Hanoi Master Plan 2020, Hanoi
- Japan Automobile Association (1997), *Research on the Traffic Problems in the South East Asia*, Tokyo.
- JICA (1998), The Master Plan of Urban Transport for Hanoi City in Viet Nam, Tokyo
- OECF (1998), Urban Infrastructure Development Project in Ha Noi Capital Region, SAPROF; Final Report, Tokyo
- Shaw, L. Nicola, and Keneth M. Gwilliam and Lous S. Thompson, *Concessions in Transport*, TWU papers No.27., WB, Washington, D.C.
- Stubbs, Jeffery R. ed.(1996), *The Future of Asian Cities*, Report of 1996 Annual Meeting Seminar on Urban Management and Finance, ADB, Manila
- WB (1996), Vietnam Urban Transport Management Project, Washington, D.C.
- WB (1998a), Project Appraisal Document on a Proposed Credit in the Amount of SDR 31.8million to the Socialist Republic of Vietnam for an Urban Transport Improvement Project, Report No: 17936-VN, Washington, D.C.
- WB (1998b), Vietnam Transport Sector Report 1998, Washington, D.C.

Statistics

Hanoi Statistical Office, Hanoi Statistical Yearbook 1997

HCMC Statistical Office, HCMC Statistical Yearbook 1997

General Statistical Office, Vietnam Statistical Yearbook 1997

JAPAN BANK FOR INTERNATIONAL COOPERATION (JBIC)

http://www.jbic.go.jp/

4-1, Ohtemachi 1-Chome Chiyoda-ku, Tokyo 100-8144, Japan Telephone +81-3-5218-9720 (Research Institute for Development and Finance) Facsimile +81-3-5218-9846

Osaka Branch

13th Fl., Aqua Dojima East 4-4, Dojimahama 1-Chome Kita-ku, Osaka 530-0004, Japan Telephone +81-6-6346-4770 Facsimile +81-6-6346-4779

Overseas Network

Representative Office in Beijing 3131, 31st Fl., China World Trade Center, Summitmas II 8th Fl., No.1 Jian Guo Men Wai Ave., Beijing 100004, The People's Republic of China Tel. 86-10-6505-8989, 3825 ~ 8, 1196, 1197 Fax.86-10-6505-3829,1198

Representative Office in Hong Kong Suite 3706, Level37, One Pacific Place, 88 Queensway, Hong Kong Tel. 852-2869-8505 ~ 7 Fax.852-2869-8712

Representative Office in Bangkok 2nd Fl., Thai Farmers Bank Building, 400/22 Phaholyothin Ave., Bangkok 10400, Thailand Tel. 66-2-270-1001 ~ 3 66-2-271-2035, 2828, 4682 Fax.66-2-271-3535

21st Fl., Sindhorn Building Tower 3, 130-132, Wireless Road, Pathumwan, Bangkok 10330, Thailand Tel. 66-2-263-3281 ~ 5 Fax.66-2-263-3286

Representative Office in Hanoi 4th Fl., 63 Ly Thai To Street, Hanoi, Viet Nam Tel. 84-4-8248934 ~ 6 Fax.84-4-8248937

Representative Office in Jakarta Jalan Jenderal Sudirman, Kav. 61- 62, Jakarta Selatan, Jakarta, Indonesia Tel. 62-21-522-0693 62-21-520-0226, 0948 62-21-525-1350 Fax.62-21-520-0975

Wisma Kyoei Prince 8th Fl., Jalan Jend. Sudirman Kav. 3-4, Jakarta 10220, Indonesia Tel.62-21-5724141 ~ 44 Fax.62-21-5724133

Representative Office in Kuala Lumpur 22nd Fl., UBN Tower, Letter Box No.59, Jalan P, Ramlee 50250, Kuala Lumpur, Malaysia Tel. 60-3-2323255,2322201,2322202 Fax.60-3-2322115

Representative Office in Manila Office 25th Fl., Pacific Star Building, Makati Ave. cor. Sen. Gil J. Puyat Ave., 1200 Makati, Metro Manila, The Philippines Tel. 63-2-810-4826 Fax.63-2-815-1799

Representative Office in Singapore (Under Preparation)

Representative Office in Colombo Level 13, Development Holdings 42, Navam Mawatha, Colombo 2, Sri Lanka Tel. 94-1-300470, 300471, 300472 Fax.94-1-300473

Representative Office in Dhaka Sonargaon Hotel (Room No.351 ~ 355), 107 Kazi Nazrul Islam Ave., Dhaka, Bangladesh Tel.880-2-811641, 811005, 812011 (Hotel Ext. 4351 ~ 5) 814081, 816700 (Direct in) Fax.880-2-813336 (Direct in)

Representative Office in Islamabad House No. 62, Ataturk Avenue, G- 6/3, Islamabad, Pakistan Tel. 92-51-820119 Fax.92-51-822546

Representative Office in New Delhi 2nd Fl., DLF Center, Sansad Marg, New Delhi 110001, India Tel. 91-11-371-4362, 4363, 7090 Fax.91-11-371-5066

Suite No.250, The Oberoi, Dr.Zakir Hussain Marg, New Delhi 110003, India Tel. 91-11-439-5039, 5040, 5245 Fax.91-11-439-5041

Representative Office in Sydney Suite 2501, Level 25, Gateway 1Macquarie Place, Sydney, N.S.W. 2000, Australia Tel. 61-2-9241-1388 Fax.61-2-9231-1053

Representative Office in Moscow 123610 Moscow, Krasnopresnenskaya Nab.12, World Trade Center, Office No. 905, Russian Federation

Russian Federation Tel. 7-095-258-1832, 1835, 1836 Fax.7-095-258-1858

Representative Office in Frankfurt Taunustor 260311 Frankfurt am Main, Germany Tel. 49-69-2385770 Fax.49-69-23857710

Representative Office in London 4th Fl., River Plate House, 7- 11 Finsbury Circus, London, EC2M 7EX, U.K. Tel. 44-171-638-0175 Fax.44-171-638-2401

9-15 Sackville Street, London, W1X 1DE, U.K. Tel. 44-171-734-3565 Fax.44-171-734-3569

Representative Office in Paris

8, Rue Sainte- Anne, 75001 Paris, France Tel. 33-1-4703-6190 Fax.33-1-4703-3236

242, Rue de Rivoli, 75001, Paris, France Tel. 33-1-4260-7536 Fax.33-1-4261-9149

Representative Office in Cairo

Abu El Feda Bldg., 16th Fl., 3 Abu El Feda Street, Zamalek, Cairo, Egypt Tel. 20-2-332-3608,3609 Fax.20-2-332-3607 Representative Office in Nairobi 6th Fl., International House, Mama Ngina Street, P.O. Box 49526, Nairobi, Kenya Tel. 254-2-221420, 221637 Fax.254-2-221569

Representative Office in Los Angeles 601 South Figueroa Street, Suite 4590, Los Angeles, CA 90017, U.S.A Tel. 1-213-627-3500 Fax.1-213-627-3900

Representative Office in New York 375 Park Avenue, Suite3601, New York, NY 10152, U.S.A. Tel. 1-212-888-9500, 9501, 9502 Fax.1-212-888-9503

Representative Office in Washington, D.C. 2000 Pennsylvania Ave.,N.W., Suite3350, Washington, D.C. 20006, U.S.A.

Tel. 1-202-331-8547 Fax.1-202-775-1990

 2100 Pennsylvania Ave., N.W., Suite535,
 Colombia

 Washington, D.C. 20037, U.S.A.
 Tel. 57-1-0

 Tel. 1-202-463-7492
 1845,

 Fax.1-202-463-7496
 Fax.57-1-0

Representative Office in Buenos Aires Ave. del Libertador No.498, Piso19, 1001 Capital Federal Buenos Aires, Argentina Tel. 54-11-4394-1379, 1803, 1763 Fax.54-11-4394-1789, 1763

Representative Office in Lima

Av.Central,643, San Isidro Lima 27, Peru Tel. 51-1-442-3301 Fax.51-1-440-9657 <u>Representative Office in Mexico City</u> Paseo de la Reforma 390-1401, Col. Juaréz, México City, D.F.06600, México Tel. 52-5-525-67-90 52-5-207-20-56 52-5-511-36-43 Fax.52-5-525-34-73

Representative Office in Rio de Janeiro Praia de Botafogo, 228-14° Andar (Setor A), CEP 22359-900, Rio de Janeiro, R.J., Brazil Tel. 55-21-553-0817 Fax.55-21-552-7509

Edifício Torre Rio Sul, Rua Lauro Mulier, 116/3505 Botafogo, Rio de Janeiro, RJ-CEP 22290-160, Brazil Tel. 55-21-295-5942, 8596 Fax.55-21-295-7840

<u>Representative Office in Santa Fe de</u> <u>Bogota</u> Calle 100, 8A-55, Oficina 715, World trade Center, Torre C, Santa Fé de Bogotá, D.C., Colombia Tel. 57-1-621 -1828, 1838, 1845, 1849, 1878, 1889 Fax.57-1-610-7293

Toronto Liaison Office P.O.Box493, 2 First Canadian Place, Suite3660, Toronto, Ontario, M5X 1E5, Canada Tel. 1-416-865-1700 Fax.1-416-865-0124

- 1. Issues of Sustainable Economic Growth from the Perspective of the Four East Asian Countries, December 1999
- 2. Organizational Capacity of Executing Agencies in the Developing Countries: Case Studies on Bangladesh, Thailand and Indonesia, December 1999
- 3. Urban Development and Housing Sector in Viet Nam, December 1999
- 4. Urban Public Transportation in Viet Nam: Improving Regulatory Framework, December 1999

Research Institute for Development and Finance,

Japan Bank for International Cooperation

4-1, Ohtemachi 1-chome, Chiyoda-ku, Tokyo 100-8144, Japan

Tel: 03-5218-9720, Fax: 03-5218-9846 (Planning and Coordination Division)

Internet: http://www.jbic.go.jp/