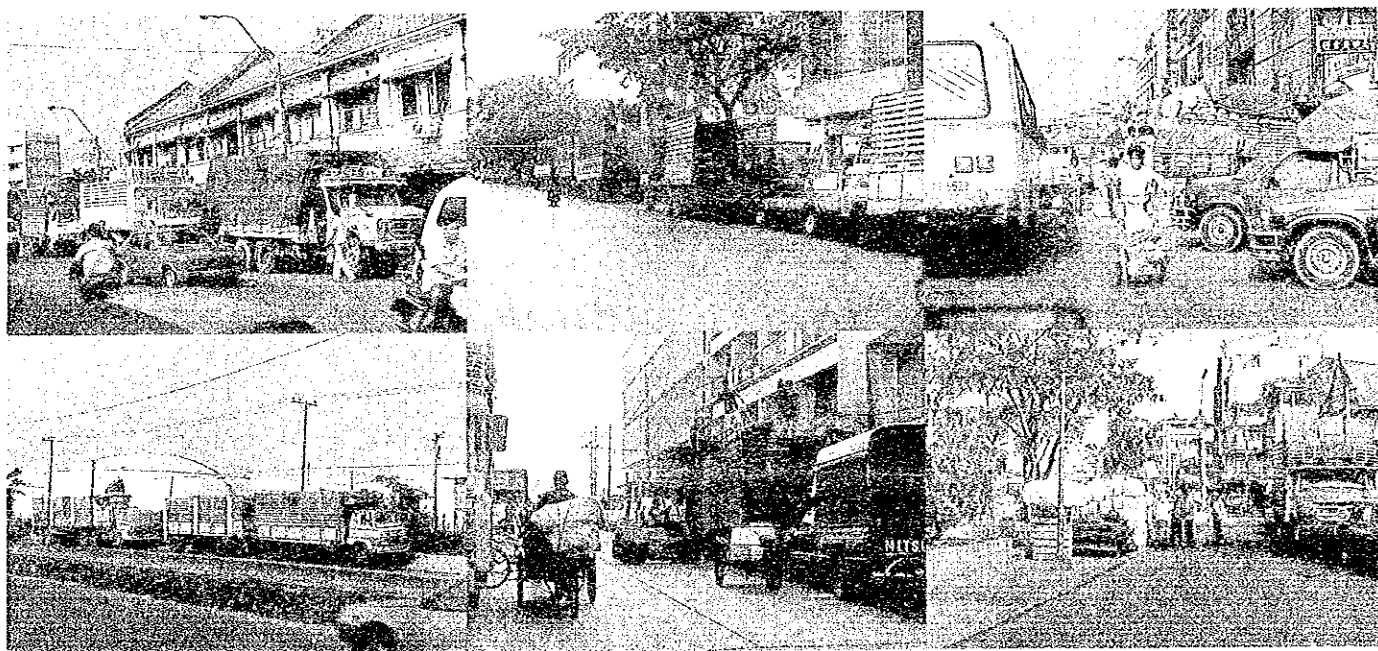


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MINISTRY OF TRANSPORT AND COMMUNICATIONS  
DEPARTMENT OF LAND TRANSPORT

THE STUDY ON GREATER BANGKOK TRUCK  
TERMINAL IN THE KINGDOM OF THAILAND

FINAL REPORT

VOLUME 5  
POLICY AND ADMINISTRATION GUIDELINE



SEPTEMBER 1992

JAPAN INTERNATIONAL COOPERATION AGENCY

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国際協力事業団

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**THE STUDY  
ON  
GREATER BANGKOK TRUCK TERMINAL  
IN  
THE KINGDOM OF THAILAND**

**POLICY AND ADMINISTRATION GUIDELINE**

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## **A. Guideline for Track Terminal Law**

### **1. Present Law**

Sections from 114 to 125 of Land Transport Act 1972 (2522) prescribe terminal regulations. Those sections are for not only truck terminal but also bus terminals. Since bus transport networks have well developed and well administrated in Thailand the regulations seem more applicable to bus transport than truck terminal.

The present terminal law covers most necessary items as follows:

- a) Setting up procedure of a terminal,
- b) Service charge,
- c) Business license,
- d) Application procedure for business license,
- e) Supervision and control,
- f) Qualification and responsibility,
- g) Organization control,
- h) Renewal of license,
- i) Mechanic, garage and parking facilities,
- j) Users' record. Details of Section 114, 115 and 119 of the law are ruled by "Ministerial Regulation" separately issued by Ministry of Transport and Communications.

In accordance with the complicated and modernized development of physical distribution, present related laws need to have revisions and additional over the following points.

- a) Clarification of the role of Public Truck Terminal
- b) Regulation of service charge
- c) Qualification of enterprise
- d) Participation of government funds



- e) Obligation of terminal users
- f) Physical distribution complex
- g) Structure regulation

## 2. Clarification of the Position of the Public Truck Terminal

There are two kinds of truck terminals; one is public and the other is private. Paragraph 2.2, Chapter 2 in the present report describes that "the difference between private and public truck terminals is not the ownership of facilities but usage of facilities, especially the usage of berths". Any truck terminal which is used by two or more transport companies or which is not used for the purpose of its own truck transport business should be called a "public truck terminal".

The truck terminal for his own truck transport business is called as a "private truck" terminal, which is stipulated mainly in the "Land Transport Act". The definition of the truck terminal needs to be clearly described in the Terminal Law. The Truck Terminal Law is mainly give provisions to public truck terminal.

## 3. Regulation Principle of Service Charge

Section 115-2 of the present Terminal Law stipulates the service charge. If the terminal business is intended initially to get profit, the service charge will be set very high in the beginning of the operation, because the initial investment costs are very high as shown in Fig. PA 1.1.

Charge policy for a public truck terminal should give considerations to the following points.

- a) Fee is main source of income for the truck terminal company. It ought to be reasonable enough to produce profit. However profit should be given consideration next to trucking company's liable ability to pay. The fee should be levelled; not high in the beginning, and not lower later.
- b) Because of the public nature of truck terminals, users' charge needs to be kept at the level which is not too high to bear.



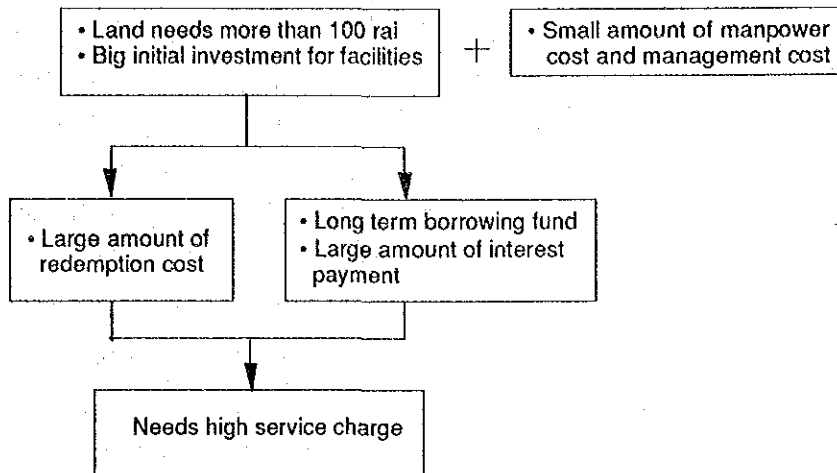
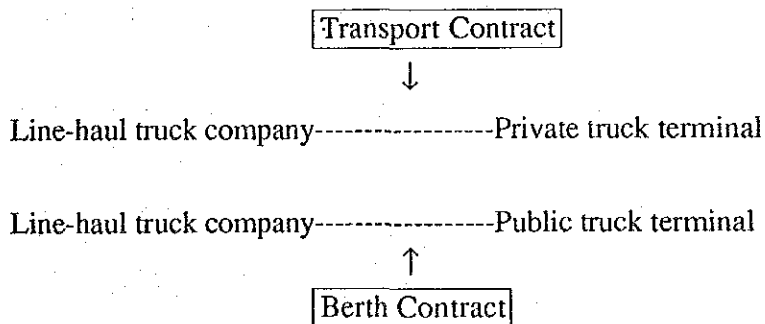


Fig. PA 1.1 Cost Component of Public Truck Terminal

c) Public nature of truck terminals forbids to discriminate certain trucking companies. The charge must be the same for any users.

4. Qualification of a Public Truck Terminal Enterprise

The present Terminal Law stipulates licensing regulations in details. The distinction between "Berth Contract" and "Transport Contract" needs to be noted. The contract for usage of berth between trucking companies and public truck terminal companies is defined as "berth contract". The contract for the usage of berth between a trucking company and a trucking company owing berth as private truck terminal is called "transport contract", not "berth contract".





Berth contract will easily be broken off by closing down of the public truck terminal. This is why a public truck terminal is regulated by licensing system. In the case of a private truck terminal, "Transportation Contract" in accordance with Land Transport Act give enough protection to users. Licensing to a truck terminal investor should be examined from the viewpoint of social confidence as well as economic ability. It is inevitable to include the provision that "regulations of the usage for truck terminal" must receive approval of the Minister of Transport.

5. Fairness Principle for Users

Public truck terminal should be open to users without any discrimination. Following two items must be apparently described in the public truck terminal law.

- a) All the conditions applied to the uses should be equal to any users, which includes forwarders and trucking companies. Principle of "Fairness" should be guaranteed.
- b) When unfair treatment or action is reported, the Transport Minister should take necessary actions to examine the appeal, to alleviate this kind of action, and to recover the status of the sufferers.

6. Some Rules for the Participation of Government Funds

As described in Appendix 1-2, "Privatization of Public Truck Terminal", a new law titled "Public Truck Terminal Company Law" was published in Japan. It regulates the participation of the Government in supplying land and capital. Twenty years later public truck terminal were shifted to private sector and the Law was abolished accordingly.

Some of the main points of this Law are as follows:

- a) The Transport Minister must approve the issue of stocks.
- b) The government must make statement that it will provide funds.





- c) Executive members must be appointed by the Minister of Transport.
- d) The plan for operation, for funds, and for revenue and expenditure must be submitted. Also the issue limit of debentures and maximum amount of loan need to be clarified.

For details, see reference; Working paper No. 6 "Public Truck Terminal Company Law" 1991 by a JICA expert submitted to the Land Transport Department, Thai Government.

If the Thai Government decides to promote leading role to the private sector, even if a Joint Venture method is taken for a public truck terminal, this new law will not be necessary.

#### 6. Legal Obligation of Line-haul Trucks for Terminal Usage

One of the main reasons to construct a truck terminal is to ease the traffic congestion. Public truck terminals usually are planned at the place crucial point of trunk road network. Legal obligation to use truck terminal needs to be stipulated, when road construction becomes necessary due to traffic congestion caused by insufficient use of the truck terminal.

Some of the suggestions to promote usage of terminals are as follows:

- a) If a certain trucking company does not use truck terminals, no more operation license for application of a new route be issued.
- b) Likewise, no more approval for the raise of trucking charge be given.
- c) If a truck terminal operates with less accommodation capacity, licensing of trucking operation on the route where the terminal is located, be given priority.



## 7. Relation with Physical Distribution Complex

Different types of physical distribution facility were analyzed in Chapter 2 of this report. Among seven alternatives, the third one, ordinary public truck terminal is recommended. It should be noted, however, that the third alternative has the possibility to develop into the second alternative, physical distribution complex.

Physical distribution business including not only truck terminal, but also trucking company, truck transport forwarder, wholesale business, warehouse business, does not need to stay in central district area. It should move to outskirts of a city. It would better be located near a public truck terminal. Transferring distribution facilities mingled with other facilities in city area to outskirts of cities systematically aims at the following point.

- a) Improvement of commodity flow
- b) Soothing road traffic
- c) Refining urban function

Basic policy is outlined as follows.

- a) New truck terminal to be built in the outskirts of existing cities, which is located at a very convenient place from viewpoint of transport geography.
- b) Existing distribution facilities in inner city area to be moved to the outskirts unless they need to stay in the inner city area.
- c) Rationalization and modernization need to be promoted for inner city distribution facilities, if they need to stay inner city area.
- d) Commodity distribution area to be prepared for new truck terminals, and for transferred facilities to be located intensively.

This facility control need to be enforced by law to allow only the following facilities.



- a) Truck terminal, railway freight station, freight loading and unloading facilities.
- b) Wholesale market
- c) Warehouse
- d) Shed on freight handling building
- e) Office building, store, vehicle parking lot and garage related to above 1) and 2).
- f) Parking lot, and garage annexed above a) ~ e).
- g) Gas station to supply fuel to vehicles, vehicle repair shop, or vehicle maintenance shop.
- h) Other facilities which will not hinder the function of the complex.

As table-4 shows, Japanese law stipulates facilities control. In Thailand also when a public truck terminal comes to be discussed in relation to city renewal, it will be necessary to enforce facility control by the law.

Table PA 1.1 Laws Related to Physical Distribution Facilities in Japan

Name of Law	Coverage
(1) Vehicle Terminal Law *1) (1959 - revised 4 times)	Public truck terminal. Bus terminal
(2) Public Truck Terminal Company Law *2) (1959 - 1990)	Joint venture by private and government.
(3) Physical Distribution Area Control Law *3) (1965 - )	Public truck terminal warehouse, wholesale store, storage. Urban renewal.
(4) Truck Terminal Structure Regulation (1958 - )	Design Standard of Public Truck Terminal.

- \*1) Reference (1): "Public Truck Terminal Law" (in Thai) LTD Staff Working paper No. 7 1991 prepared by a JICA Expert.
- \*2) Reference (2): "Public Truck Company Law" (in Thai) LTD Staff Working Paper No. 4 1991 prepared by a JICA Expert.
- \*3) Reference (3): "Truck Distribution Center" (in English and Thai) LTD Staff Working Paper No. 1 1990 prepared by a JICA Expert.



## 8. Regulation for a Public Truck Terminal Structure

The present Ministerial Regulation stipulates facilities necessary for a truck terminal, but no stipulation is given to their structures. They may be covered to a certain extent by the present Building Standard Act. If structure for a public truck terminal is to be regulated by a law, the following items should be included:

- a) Specification of car load for safety of access road, apron, and parking area
- b) Safety, regulation of structure and location of entrance and exit of vehicles
- c) Regulations to secure convenience for users of platform and apron
- d) Regulations to install environmental protection facilities

For reference please see the Report, Chapter 7 Design Standard.





## **B. Case Study in Japan**

### **1 Privatization of Public Truck Terminal**

- a) Tokyo Public Truck Terminal Corporation
- b) Starting Physical Distribution Complex
- c) Formulation of Joint Venture Company
- d) Management Condition
- e) Privatization in 1985
- f) Capital Fund Versus Loan



a) Tokyo Public Truck Terminal Corporation

There are four public truck terminals in Tokyo Metropolitan area; North Terminal with 320 berths, East Terminal with 438 berths, South Terminal with 433 berths and North-East Terminal with 320 berths. The capital fund was provided by the Central government, Tokyo Metropolitan government, and by some private companies. It is called as a "Public Enterprise" or a "Corporation having a special status". It is not a private enterprise.

This Tokyo Public Truck Terminal Corporation was privatized completely in 1985, 20 years after its foundation. Capital of the Central government was transferred to the privatized company, "Japan Truck Terminal Company". This process of transition can be applied to the Bangkok truck terminal. Table 1 shows the transition of funds contributed by different organizations for the 20 years up to 1985.

b) Starting Physical Distribution Complex

Construction of the first public truck terminal in Tokyo area started in 1965. The social and economic conditions then were similar to those of the present Bangkok. Economic growth was high, road congestion was critical, and air and water pollution was serious.

In the beginning, Trucking Association planned to build public truck terminals on their own. It was not successful because of high construction cost, especially high land acquisition cost. Later the plan was discussed in relation to the urban renewal which involved moving factories and warehouses including Trucking business out of central part of Tokyo.



Table PA 1.2 Transition of Capital Funds (Unit: Million Yen)

	Year	Central Government	Tokyo Metropolitan Government	Private	Total	Aggregate
1	1965	50	-	253	303	303
2	1966	250	250	197	679	1,000
3	1967	450	250	450	1,150	2,150
4	1968	250	350	600	1,200	3,350
5	1969	150	300	300	750	4,100
6	1970	200	300	200	700	4,600
7	1971	300	300	300	900	5,400
8	1972	400	300	400	1,400	6,800
9	1973	450	150	450	1,350	8,150
10	1974	500	500	500	1,500	9,650
11	1975	550	450	450	1,450	11,100
12	1976	550	450	450	1,450	12,500
13	1977	550	450	450	1,450	14,000
14	1978	544	470	470	1,484	15,484
15	1979	534	470	470	1,474	16,958
16	1980	51	-	-	51	17,009
17	1981	-	-	-	-	17,009
18	1982	-	-	-	-	17,009
19	1983	-	-	-	-	17,009
20	1984	-	-	-	-	17,009
21	1985	-5,779	-	Japan Development Bank	-5,779	11,230
22	1986	-	-	-	-	11,230
23	1987	-	-	470	530	12,230
	Total	0	5,290	470	6,470	12,230

Source: Annual Report of Japan Public Truck Terminal Company 1991



As the result, construction of public truck terminal was planned and integrated with other physical distribution facilities by coordinating efforts of several government agencies. Ministries concerned were as follows:

- (1) Ministry of Construction for land acquisition and reclamation
- (2) Ministry of International Trade and Industry for Modernization of physical distribution
- (3) Tokyo Metropolitan Government for the urban renewal

c) Formulation of Joint Venture Company

The joint venture company for construction of the Public Truck Terminal was established according to the following condition and procedures:

- (1) Administration Staff for the Japan Public Truck Terminal Corporation was recruited from Japan Trucking Association and from local and Central Governments.
- (2) One third of the capital funds was obtained by selling stock to private companies.
- (3) Two-third of the capital funds was provided by the Tokyo Metropolitan Government and Central Government.
- (4) Construction plan and management plan were formulated by Public Truck Terminal Promotion Committee consisting of government staff and scholars commissioned by the company.





The land for Physical Distribution Complex was reclaimed from the Tokyo Bay by The Japan Housing Corporation under the supervision of Ministry of Construction. The land was sold in lots to the following organization at lower price than market. Utilization of this land was strictly regulated by The Tokyo Metropolitan Government.

- (a) Truck terminal : Japan Public Truck Terminal Corporation
- (b) Container depot : Japan National Railroad (in 1988 it was split to six private companies)
- (c) Central Wholesale market : Tokyo Metropolitan Government
- (d) Warehouse : Tokyo Warehouse Corporation
- (e) Wholesalers : Eight private companies

Table PA 1.3 Composition of facilities

South Complex of Tokyo		North Complex of Tokyo	
Truck Terminal	22 ha	Truck Terminal	12 ha
Warehouse	12 ha	Container Depot	1 ha
Wholesalers	15 ha	Warehouse	4 ha
Others	2 ha	Market	6 ha
Public facilities	12 ha	Wholesalers	5 ha
		Public facilities	4 ha
<b>Total</b>	<b>63 ha</b>	<b>Total</b>	<b>32 ha</b>



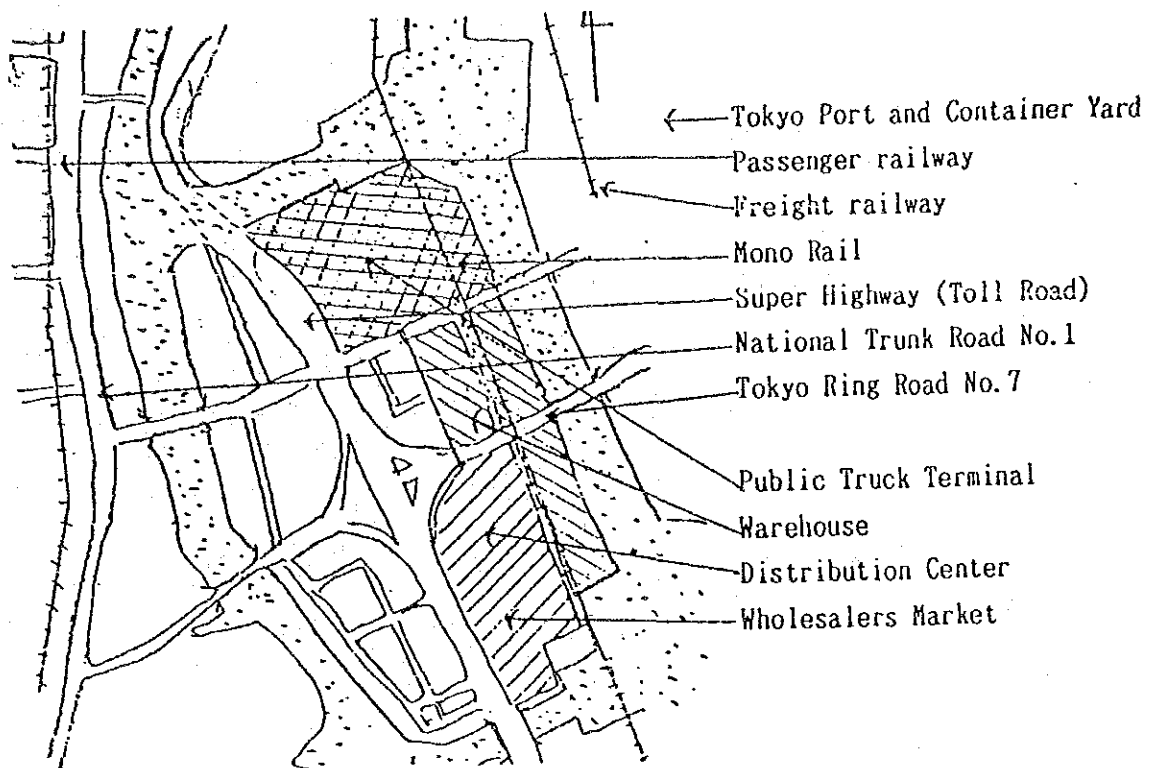


Fig. PA 1.2 Tokyo South Complex

Public fund supplying for construction of truck terminal was controversial.

Benefit was considered to accrue only to private trucking companies as a direct benefit. But finally the government admitted the importance of indirect benefit. The composition of beneficiaries is shown in Table PA 1.3, and the composition of capital in 1984 before privatizing the company is shown in Table PA 1.4



Table PA 1.3 Beneficiaries by Public Truck Terminal

	(Cosigner) Shippers	Trucking Companies	Citizens near the Terminal	Citizens in General	Administration
1. Transportation Cost Saving	⊙	⊙	○	○	○
2. Decrease in Traffic Volume	○	○	—	⊙	○
3. Stability of Goods Supply	⊙	—	⊙	⊙	○
4. Better Utilization of Land	—	—	—	—	○
5. Protection of Living Environment	—	—	○△	○	○
6. Urban Renewal near the Terminal Area	—	—	⊙	○	○
7. Increase of Public Services	—	—	⊙	—	—

Direct Benefit: ⊙  
 Indirect Benefit: ○  
 Minus Benefit: △

Table PA 1.4 Capital Composition Before Privatization (1984)

(1 Stock = 1,000 yen)

	No. of Stock-holders	No. of Stocks
1. Private Companies		
- Long Haul Trucking Companies	62	2,878,926
- Local Trucking Companies	97	79,417
- Warehouses	2	2,633
- Individuals	5	1,134
- Oil Companies	5	730,000
- Banks	17	1,015,000
- Construction Companies	9	742,372
- Automobile Companies	7	306,518
- Insurance Companies	10	179,000
- Electricity Companies	1	5,000
Total	(215)	5,940,000
2. Tokyo Metropolitan Government		5,290,000
3. Central Government		5,779,000
Total		17,009,000

Data: Annual Report Japan Public Truck Terminal Company, 1990



d) Management Condition

For the first 5 years, the operation of the terminal went into red. Since then it has been producing profit except the years of 1975-1976. As the Table-1 shows, the year 1989 recorded high profit of 798 million yen. Revenue sources in 1989 were as follows;

(1) Rent from berth	3,630 million yen
(2) Rent from parking place, hotel and Distribution Processing Center	2,722 million yen
(3) Rent from restaurant, recreation room, at repairing factory	142 million yen
(4) Sales from gas, cigarettes and etc.	996 million yen

Total debt of the company reached to 33,100 million yen in 1989 made up as follows;

Central Government Loan	: 4,200 million yen
Japan Development Bank	: 18,600 million yen
Commercial Banks	: 5,000 million yen
Others	: 3,200 million yen

On the other hand, the company has 42,980 million yen of tangible fixed asset which consists from;

Land	: 24,500 million yen
Building	: 14,500 million yen
Others	: 3,900 million yen

The composition of the land asset is very high. A working group sought the possibility of raising 5% dividend and concluded that increase of rental fee would be necessary.





Table PA 1.5 Profit and Loss by Terminal Operation

Year	Profit (million Yen)	Operation
1965	-1	
1966	-1	
1967	-3	
1968	-113	South (S) Terminal Opened in June
1969	-160	
1970	9	Northwest (NW) Terminal Opened in October. Charge increase by 15% for S.
1971	35	Addition to South (S) opened in November
1972	74	
1973	84	Addition to (S) opened in November Charge increase by 10% for S. and NW.
1974	14	Addition to NW opened in April
1975	-159	Addition to S. opened in December
1976	-134	South and NW increased fee 18 %
1977	215	North Terminal (N) opened in April
1978	158	
1979	280	
1980	328	
1981	301	
1982	123	
1983	235	East Terminal (E) opened in April
1984	276	
1985	491	
1986	662	
1987	606	Addition to E opened in October
1988	680	
1989	798	Addition to E opened in December. Charge increase by 5.7% for S, N, and W, and 3.7% for N.

Source; 1991, Annual Report 1991, Japan Public Truck Terminal Company



e) Privatization is 1985

The cabinet decided to privatize many public enterprises including Japan National Railway Corporation as a part of modernization and rationalization efforts of the government administration.

Japan Public Truck Terminal Corporation was subjected to the policy since the financial condition of the corporation was stable.

Privatization meant to withdraw the government's capital funds of 5,779 million yen during the past 20 years from the corporation. Thus the capital funds had to be sold in stock market. But this stock possibly producing no dividend for sometime could not be sold even to trucking companies.

To solve this problem, the stock was bought by the central government for the sake of formality. Then the stock was converted into loan on the condition that no interest would be paid.

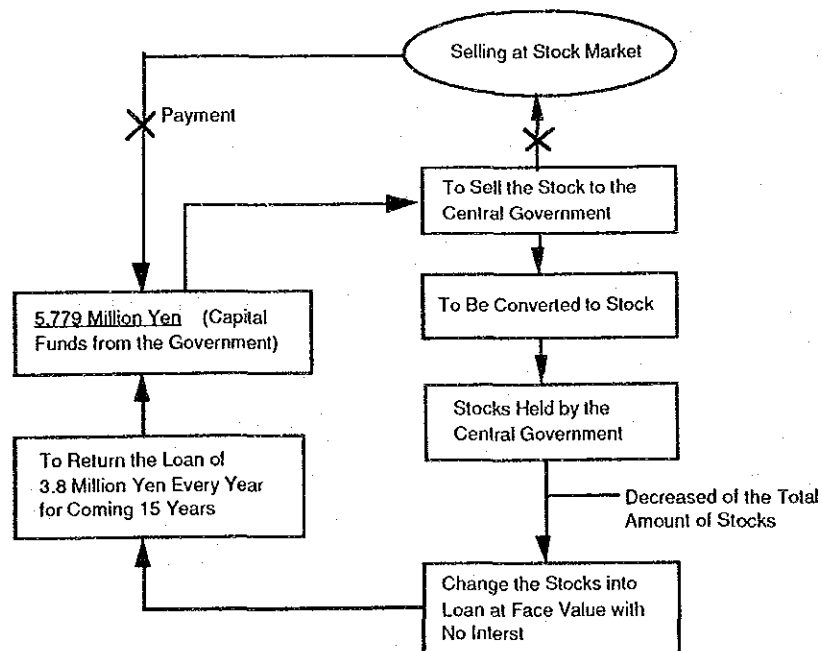


Fig. PA 1.3 Procedure to Return Capital Funds



The government stipulated the condition that the amount of 3.8 million yen to be returned every year for the following 15 years. The terms of repayment was decided in consideration of the result of operations of the Terminal Company. If the result shows good profit, the repayment amount should be increased and the repayment period be shortened accordingly. The decrease of the capital funds have to be agreed by stock holders. Procedures to return capital funds is shown in Figure-1.

f) Capital Funds Versus Loan

The Trucking company actually did not pay dividend for the capital funds provided by the government for 20 years. We might say that the Government gave 20 years of grace period for the loan, which was the capital. For the following 15 years, the company was to return the loan without interest. In summary, we can say that the government loaned the funds for 35 years with no interest, in which first 20 years was the grace period.

But there is a big deference between funds and loan. Usually, lending loan requires mortgage and it is premised on repayment. The lender does not participate in the company's operation. On the other hand, the investor usually participates in management and operation of the company. He cannot always expect repayment, and he may not have dividend, but takes responsibility as a joint venture.

Because of the public nature of the public truck terminal, it was quite wise and reasonable that the government participated in the operation as an investor in the beginning, and that later at the optimum time, when the terminal company was able to be independent financially and administratively, the government withdrew the fund to promote privatization of the public truck terminal.



2. Line-haul Truck Transport Policies

- a) Truck Transport and Truck Terminal
- b) Licensing Policy to Control Number of Trucking Companies
- c) Policy to promote Service to Remote Area
- d) Execution of Control Policy of Line-haul Truck License
- e) Easing of Restriction Policy
- f) Conclusion





a) Truck Transport and Truck Terminal

Users of Truck Terminal are line-haul trucking companies. The change of the role of truck transport as years go by affects truck terminal plan and the administration to a great extent.

There are two types of truck transport; line-haul truck transport and district trunk transport. Line-haul transport is operated on a fixed route at scheduled time for mixed commodities. District truck transport carries directly from shippers to consignees by carload consignment in the area of the specified district.

There are 300 line-haul trucking companies and 36,490 district trucking companies in Japan. Truck terminals are necessary for line-haul truck business for "mixed commodity loading".

There are 4 types of line-haul trucking-about 90 % of line-haul trucks use truck terminal in different ways in Japan.

- (1) Origin - T.Terminal - T.Terminal - Destination 60%
- (2) Origin - T.Terminal \_\_\_\_\_ Destination 27%
- (3) Origin \_\_\_\_\_ T.Terminal - Destination 10%
- (4) Origin \_\_\_\_\_ Destination 3%

Average cost component of line-haul trucking business is as follows. It varies by running distance and route.

Running Cost	:	52%
Collection and delivery cost	:	23%
Terminal facility cost	:	11%
Office management cost	:	14%



The cost to use truck terminal is not an extra or additional cost, because using truck terminal usually reduces the total cost for line-haul truck transport.

b) Licensing Policy to control number of Trucking companies

Trucking company increases sharply at the time of high economic growth. On the other hand, at dispersion, many companies have to close their business, and excessive competition occurs with freight rate dumping. Thus the government needs to control trucking business keeping the balance between supply and demand to maintain steady service and fair competition.

In 1953, Japanese government defined the role of above mentioned two categories of truck transport, and started licensing system according to "Land Transport Act."

During the period of high economic growth, many companies such as private railways and warehouse companies started line-haul truck business. The Land Transport Department licensed 300 companies for the total distance of 360,000 km until the year 1990.



Table PA 1.6 Transportation of Truck Transport

	Line-haul Truck		Regional Truck		Truck Transport Tonnage (Ton-km)
	(License Km)	(No of Companies)	(No of Companies)	(Tonnage)	
	(1000 km)			(1000 ton)	(1000 ton)
1955	153	528	8,323	569	9,800
1965	244	489	19,368	2,193	48,400
1975	292	383	27,293	4,393	129,700
1985	361	331	33,201	5,049	205,900
1990		297	36,485	6,114	274,200

Data: Land Transport Statistics



c) Policy to Promote service to Remote Area

Operating on the route with big demand of transport commodity is profitable. Therefore licensing acquisition becomes very competitive. On the other hand, in remote areas where the demand is not enough to start a line-haul service, the business is not profitable. Transporting large quantity at one time usually bring more profit, because of the less cost for the vehicle and manpower. This is particularly true during high economic growth.

Thus line-haul truck routes were divided into the following three groups to give good transportation service in remote areas.

- (1) Nationwide service network: It connects cities over 200,000 population by line-haul truck routes.
- (2) Regional service network: It serves the whole land by 3 regions; north, central and west.
- (3) Local Service network: There are 9 branch offices of Land Transport Department responsible for 9 local areas.

A Trucking company can operate only in the area located, and in neighboring areas of the branch office jurisdiction. Trucking service is licensed by the Ministry of Transport for over 100 km of operation, and by the regional office for less than 100 km.

d) Execution of Control Policy of Line-haul Truck License

Construction of more highways, increasing economic activities in local area, and high economic growth forced line-haul truck to operate in longer distance, expanding business scale in the following ways;

- (1) Merger of unprofitable companies
- (2) Systematization of enterprises, and others.





Big companies have expanded line-haul truck service network in whole country. In 1986 there were 21 line-haul route proposals for approval on the waiting list.

#### Example of Network Expansion

- |          |   |
|----------|---|
| 1980. 8  | Yamato nation wide line-haul trucking company applied for license to expand its service network in Nagoya area.             |
| 1981. 4  | 13 local line-haul trucking companies raised objection, and hearing was held by the Ministry of Transport.                  |
| 1982. 4  | Yamato company requested early solution to the Ministry of Transport.   |
| 1983. 3  | Yamato company started district transport service using light trucks (this kind of service can be operated without license) |
| 1983. 10 | A local line-haul trucking company again raised objection to the light truck service and requested public hearing.          |
| 1984. 1  | Public hearing was held   |
| 1984. 4  | Land Transport Committee submitted the findings that Yamato may be licensed as proposed.                                    |
| 1984. 5  | The license was given by the Minister of Transport.   |

As one of modernization of physical distribution system small package delivery service started in the 1980's and it spread all over the country very rapidly. Some of the characteristics of this delivery system are; it serves from door to door by receiving a call, it will come to called the package and deliver it on the following day, and the charge in uniform.

This modernization of physical distribution system works on condition that;

- (1) There are truck terminals in main delivery and collection areas.



- (2) Line-haul truck and regional truck work in the way to compliment each other.
- (3) Transport service network exists in the nation-wide scale.

Regional truck transport business has also experienced changes in the 1980's.

- (1) Regional truck company has increased from 8,323 in 1955 to 36,485 in 1990.
- (2) Delivery distance has increased and size of vehicles have grown larger.
- (3) Mixed loading for different consignor started against the law.

Operation of regional trucking used to be restricted within the prefecture where the company is located.

The revised law divided the whole country into four district zones thus greatly expanding the possible operating area of regional trucking. As the result, the classification of line-haul truck and regional truck service is not clear any more.

e) Easing of Restriction Policy

Reasons for the change of Truck Administration Policy after 40 years may be summarized as follows;

- (1) Distinction between line-haul truck and regional truck transport became unclear.
- (2) It came to be difficult to control the expansion of new physical distribution system represented by small package delivery service system.
- (3) License proposal has increased greatly and many are always on the waiting list.



- (4) Free competition policy has been accelerated by the government.

Since 1990, the new truck Administration Policy allows any person to start line-haul and regional trucking business provided that the following conditions are met.

- (1) Trucks are well maintained for safety
- (2) Truck operation is under control
- (3) Follow-up survey of missing cargo is assured
- (4) Resting facilities are provided for truck drivers
- (5) Insurance policy is secured in the case of accident
- (6) Loading and unloading facilities are provided
- (7) Garages are provided

The licensing system changed into approval system and the destination of line-haul truck business from regional trucking business was abolished.

These regulations were defined separately from Land Transport Act to the new "Cargo Truck Transport Business Act" in 1990.

For line-haul truck business, therefore, truck terminal facility is a prerequisite. It should have enough capacity for the cargo volume to be handled, loading and unloading facilities, sorting facility, as well as the storage. It is not allowed to load and unload at road side or on the street.

Truck company will also need their own garage. The garage has to be in the operation office, or near the office, with enough capacity for parking with 50 cm interval of each parking space. The garage should be equipped with vehicle inspection facilities.

f) Conclusion

Administration of truck transport in summary experienced two phases in Japan.



- (1) Trucking companies were classified according to routes and areas for sound development of the trucking business and for protection of users. Thus excessive competition was avoided.
- (2) Licensing system was changed to approval system. Restrictions were eased to promote free competition controlled with qualifications and condition.

As a result the first phase did not work out and moved to the second phase. But it is difficult to conclude if we should have started approval system from the beginning.

At any rate the importance of a truck terminal will be recognized more as the role of line-haul truck develops more in the economy. Because the licensing system was changed to authorization system more district trucking companies are expected to move to line-haul trucking, which inevitably will increase to use of truck terminals.





3. Truck Traffic Regulation Policy

- a) Proposal to Ban Heavy Truck Traffic
- b) The Ban on Truck Traffic and Construction of Truck Terminal
- c) Limit of Overall Traffic Restrictions
- d) Restriction on Vehicle Traffic by Types
- e) Facilitation of Truck Terminal by Enforcement of Traffic Regulations
- f) Reinforcement of Alternative Traffic Restrictions
- g) Transition to Environmental Restriction Measures
- h) Abolition of Restriction Hours of Large-sized Trucks
- i) Conclusion



### 3. Truck Traffic Regulation Policy

#### a) Proposal to Ban Heavy Truck Traffic

The Seventh National Five-Year Plan proposed the all-day-ban (24 hours) on large-sized truck traffic in Central Business District in Bangkok. In city area of Bangkok, the Land Transport Policy Committee proposed the ban on large-sized truck traffic. At present the law enforces the ban only during rush hours between 6 a.m. and 10 a.m.-for four hours and 15 p.m. and 21 p.m.-for six hours.

#### b) The Ban on Truck Traffic and Construction of Truck Terminal

Neither proposals have been implemented, yet, because twenty-four hour restriction will seriously affect commodity flow in Bangkok and trucking business. Line-haul truck companies are concerned with the following three enforcement issues:

- (1) The 24 hour ban on large sized trucks in Central Business District (CBD).
- (2) The ban in all city areas of Bangkok
- (3) The street use restriction (parking, loading and unloading)

Construction of truck terminal will be greatly affected by the extent of enforcement. Japan has experienced the similar problems of truck traffic regulation enforcement in relation to truck terminal construction.

#### c) Limit of Overall Traffic Restrictions

The inner city traffic congestion is attributable to not only the truck traffic, but passenger traffic, inadequate street system, and over concentration of population in Bangkok.

The strategies taken in Tokyo, when faced with traffic congestion, are the followings:



- (1) Installation of traffic lanes.
- (2) Prohibition of pedestrian street crossing.
- (3) Prohibition right-turn.
- (4) Introduction of one-way traffic.
- (5) Prohibition of U-turn.
- (6) Prohibition of on-street parking.

These restrictions were enforced first on trunk roads and gradually on every road in the city of Tokyo. However, this measure on trunk roads had limitation. Traffic restrictions by type of vehicles on main roads was the next step.

d) Restriction on Vehicle Traffic by Types

Following restrictions were enforced from May 1962.

Table PA 1.7      Restrictions

Restricted vehicle:	Large sized trucks over 7.5 tons
Restricted hours:	8:00 - 11:00 a.m. (3 hours)
Restricted area	Twenty main trunk roads in 23 wards in Tokyo

At the same time Tokyo Land Transport Department notified line-haul truck drivers to drive in and out of Tokyo at night between eight o'clock in the evening and eight o'clock in the morning. The restrictions proposed for the city of Bangkok are similar to the rush of 1962 in Tokyo-when the population of Tokyo reached ten million. Similar restrictions were enforced in 1963 in the city of Osaka-the second largest city in Japan.



Table PA 1.8 Number of Vehicles in 1962 in Tokyo

Bus	8,441
Passenger car	382,636
Truck	417,753
Special vehicle	11,454
Total	820,287

e) Facilitation of Truck Terminal by Enforcement of Traffic Regulations

Traffic congestion became more serious. In around 1965, the construction of Tokyo Metropolitan Expressway induced more traffic congestion, and the coined word "traffic war" was set a policy target to be tackled. This traffic situation was deteriorated as follows: This traffic situation deteriorated the city function as follows:

- (1) Truck transport operation efficiency decreased.
- (2) Increase of transport cost deteriorated trucking business.
- (3) Trucking companies hesitated to replace their trucks with the large sized trucks to avoid worsening of business, and could not catch up the increase of freight demand.

f) Reinforcement of Alternative Traffic Restrictions

Since then many different traffic restriction were enforced in Japan, but 24 hours ban in Tokyo was never enforced. The Police headquarters proposed regulations such as night driving only on large-sized vehicles, and 24 hours ban on designated roads. None of which were implemented after all. Instead, following policies were implemented:

- (1) So called "Clear-way Operation" was implemented in 1968-1970 by reinforcing traffic restrictions on main trunk roads.





It regulated large-sized trucks' hours and routes of operation in inner city of Tokyo and speeding violation.

- (2) Restricted hours were changed from 8:00-11:00 a.m. to 7:30-9:00 a.m., and from 13:00-19:00 p.m. to 17:00-19:00 p.m. Restricted area was increased from 20 routes to 67 routes, in which 6 trunk roads banned as small as 5 ton trucks as well.

g) Transition to Environmental Restriction Measures

Pollution created by large-sized truck traffic became an issue, and new measures were taken as follows:

- (1) Delineation of sleep time zone: 21:00 p.m. to 6:00 a.m.
- (2) The inner lanes of truck roads was designated for large-sized trucks after mid-night
- (3) Separation of people and vehicle was enforced by eliminating through traffic from residential areas.
- (4) Maximum speed in inner city truck road was limited to 40 km/hr.
- (5) Traffic control was enforced for noise control which was called "ND operation".
- (6) Tightening vehicle emission regulation

h) Abolition of Restriction Hours of Large-sized Trucks

As the result of thorough reinforcement of Clear Way Policy and of air pollution control, time restriction was abolished in 1977 after 15 years. In 1970s, environmental problems became more apparent, and noise and vibration were realized as traffic pollution, which grew as a serious social problems. From October 1978,



large-sized truck were banned within 23 wards of Tokyo from 22:00 p.m. Saturday to 7:00 a.m. Sundays

i) Conclusion

More expressways are being built in Bangkok, but traffic congestion is becoming worse faster than the expressway construction. Mass transit system, such as commuter rails, (another solution to congestion) will take years to build. Thus, implementation of truck terminal plan is the best way to the traffic problems in Bangkok. It may be necessary to find out how 24 hour ban on large-sized truck traffic affects transport cost.



4. Obstacles and its Countermeasures in Establishing First Truck Terminal
  - a) Land Acquisition
  - b) Delay of Access Road Construction
  - c) Poor Involvement of Personnel from Related Field



#### 4. Obstacles and its Countermeasures in Establishing First Truck Terminal

##### a) Land Acquisition

Most tough problem in the planning stage of a public truck terminal in Japan was the land acquisition. The government of Japan took three countermeasures to cope with this problem.

##### (1) Loan Offering from Development Bank of Japan

This bank is a governmental financing institution which aims at assisting the industrial and regional development projects by providing a long-term loan and also at encouraging commercial banks to join the projects.

The government allowed Development Bank to finance the truck terminal project in order to assist the project. With the loan from Development Bank of Japan, the truck terminal company could get an access to the commercial bank loan.

##### (2) Japan Vehicle Terminal Corporation Law

The government of Japan decided to establish the truck terminal company by its own fund and prepared this Japan Vehicle Terminal Corporation Law to allow the government to do it. This showed the strong initiative of the government. It was also effective to attract the private investors. Actually other two sectors; local government and private sector joined the project because of the participation of the government.

##### (3) Law of Physical Distribution District

This law is to allow the government to execute the compulsory land acquisition. In establishing the truck terminal in the urban area, the government can designate appropriate land at the appropriate location for the site of





public truck terminal. This is useful to establish the truck terminal network in a line with land use plan.

By this law, the land acquisition for the public truck terminal could have been carried out smoothly.

b) Delay of Access Road Construction

All new access roads should be open to the public in time for the completion of the terminal. However, delay in opening the access roads for all terminals in Tokyo were recorded. No effective counter measures were taken. Average period of delay were half a year.

c) Poor Involvement of Personnel from Related Field

In these days, there were not capable consulting firms for terminal planning. The original terminal plan in Tokyo was formulated by "Committee of Truck Terminal Construction" and "Committee of Truck Terminal Management" organized by the government officials, trucking companies and scholars. Consensus and support are necessary from related government and private organisations for the implementation.





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