

BASIC STUDY OF URBAN GOODS MOVEMENT IN METRO MANILA: AN ASSESSMENT OF PHYSICAL DISTRIBUTION FACILITIES AND COMMODITY FLOW PATTERNS

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abstract: This paper focuses at the urban freight transport industry at present. It presents an overview of the commodity flow as a system in Metro Manila, identification of major problem areas which affect goods movement and assessment of key factors influencing its physical distribution. One of the main findings of the research is that the existing traditional method of distribution channels are complex, more expensive and uneconomical patterns. The research summary includes among others: first failure on the part of the government to directly address the real causes of problems affecting goods flow: second, failure for the private industries/commercial carriers to determine the optimal distribution channel that will eliminate unnecessary transport transfers.

1. INTRODUCTION

The principal focus of most transportation planning efforts in the Philippines today is the movement of persons. Very little is known about the movement of urban commodities and the effects of commodity flow on the urban environment. Most of the transportation planning studies are limited only to passenger trips whereas truck traffic is considerably always behind the scene. Of course, there are several reasons for this. Among them are:

- (1) goods movement is not centrally organized; and
- (2) it is a multifirm activity so there is difficulty in data gathering.

Any urban area could not exist without a sustained and reliable flow of goods to, from and within it. Urbanization and transportation cannot be independent of each other. Urban transport planners usually focus on the concept of transport infrastructure as a means of resolving congestion and other transport related problems. While it helps to a certain degree, the approach is not always effective. On the other hand, the cost incurred in goods movement is around half of the urban transport costs¹. It is for these reasons that urban transport planning should take very serious account of urban goods movement. Neglecting goods movement causes serious deficiencies in the process of urban development.

¹ Metro Manila Urban Transportation Strategy Planning Project, Volume 12, *Truck Operations*, (MOTC: 1984), p.7

This study will serve as a first step in looking deeply into the urban goods movement system, a step towards changing the way of seeing the role of freight transport in urbanization. That is, not only the government but also the private sector who are in the freight transport industry, should be recognized as participants in the planning and development process, as well as creators, albeit indirectly, of wealth.

1.1 Objectives

The general objectives of this research are the following:

1. To determine the existing location of urban freight transport facilities in Metro Manila.
2. To describe commodity flow patterns and identify the key factors influencing patterns of urban freight transportation.
3. To identify the most common problems regarding urban goods movement in Metro Manila.
4. To recommend general solutions on logistics of urban freight movement considering various areas such as traffic demand management, policies, regulations, infrastructures, etc.

1.2 The study area

Metro Manila or the NCR (National Capital Region) is the center of economic activity in the Philippines. NCR is located in Luzon island, the biggest of the three main islands of the country. The region extends about 50 kms, from north to south and about 20 kms. from east to west (see Figure 1). The region is composed of six cities and 11 municipalities with a total land area of 636 sq. kms. and a population of 8.2 million. The population density is 12,498 persons/sq. km. which is very much higher than the national average of 202 persons/sq. km. Metro Manila today ranks as the 18th largest metropolitan area in the world.

In the past years, because of the rapid pace of urbanization, Metro Manila has experienced an enormous increase in traffic volume and at present experience a severe traffic congestion. In a densely built-up inner areas where the amount of motorized traffic continues to increase, supplying these areas with goods causes considerable problems.

Freight transport in Metro Manila and to the other parts of Luzon island is heavily dependent on motor vehicles since the level of services from the rail transit has currently gone down. Thus truck traffic constitutes a large share of the total daily traffic in the city streets.

1.3 Scope of the study

There are two major limitations that are inherent in this study. First, the research focuses only on local movements which originated or terminated within the Metropolitan area. Local movements of commodities include intracity movements only. Intracity movements means both the origin and destination are within the Metropolitan Manila area. Second, the type of commodity is limited to food. Food commodity was sub-divided into three groups, they are:

1. Fish and Fish Preparation
2. Grains and Cereal
3. Beverages

Facilities and Commodity Flow Patterns

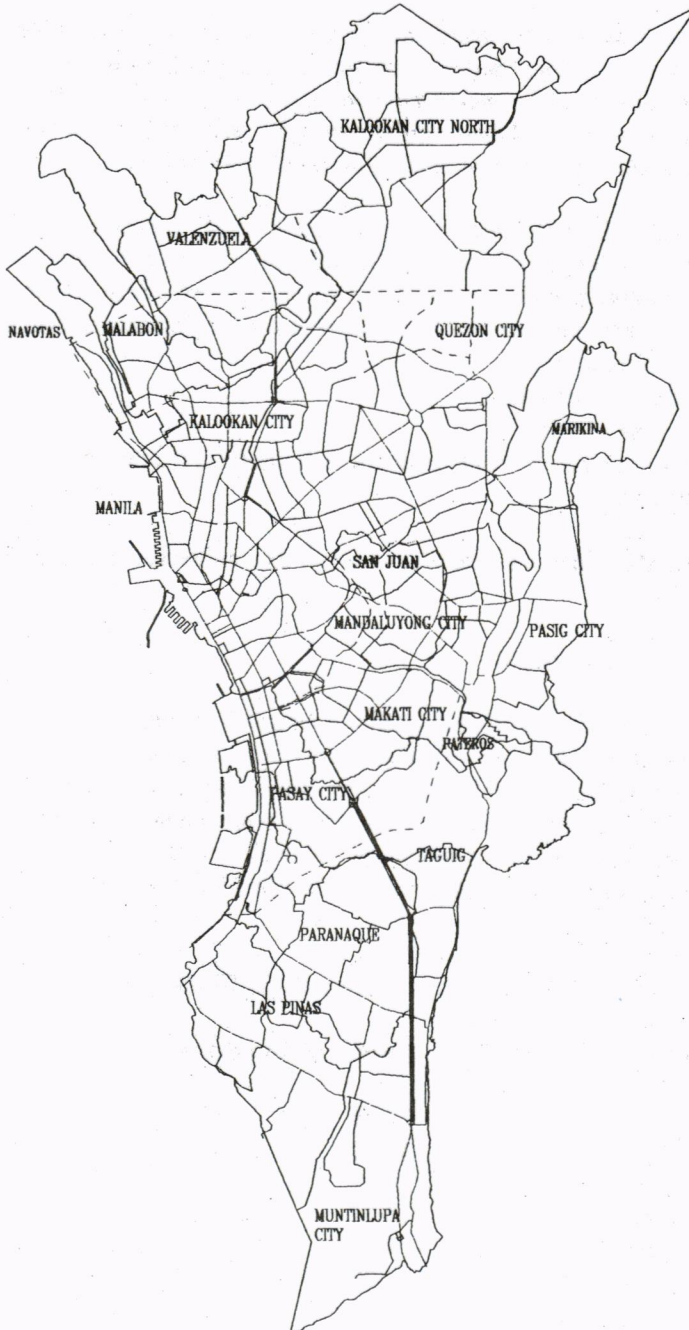


Figure 1 Metro Manila Map

1.4 Research Design

The Delphi technique was used in the design of this research where investigations dealing with phenomena which already happened were utilized. This was done to determine how the respondents tend to think about the answers to certain questions, to identify the categories they use and to know as to what extent their replies vary. The result of this test was properly absorbed and translated into changes in the final interview questionnaire.

The survey was conducted in mid-August until November 1994. Judgement or purposive sampling was used in the selection of samples for both the national and local government officials involve in transport planning, operation and management while cluster sampling was used for the producers, manufacturers, wholesalers, retailers and truckers. Samples were drawn from the following groups:

1. National government officials
2. Local government officials
3. Food Industry (producers, manufacturers, wholesalers/retailers)
4. Trucking industry

Computerization of the statistical analysis was utilized. The software used was Statistical Analysis Software (SAS).

1.5 Data Profile of Urban Freight

In Metro Manila, the 1993 total truck population accounted for only 7.9% of the total number of the motor vehicles registered. Although trucks are a minority of the fleet in terms of its percentage share of urban road traffic, they carry a significant proportion of the freight task. The 6-wheeler trucks has the largest share among the responding vehicles with 37.04% from the total samples. Most of the responding vehicles are the medium-sized trucks followed by the light trucks with 25.04% while the semi-trailer trucks got the lowest percentage (see Table 1).

Table 1 Vehicle Type of Responding Trucks

Vehicle Type	Percent of Responses
4 Wheels	25.04
2 ax. (6 wheels) 8-16 tons	37.04
3 ax. (10 wheels) 25 tons	23.47
Semi-trailer, 3 ax. (10 wh) 20 tons	5.17
Semi-trailer, 4 ax. (14 wh) 27 tons	4.90
Truck trailer (20 wh) 34 tons	4.38

	100.00

The services engaged by the responding truck operators are: carrier, warehousing, manufacturer, producer, wholesaler, retailer and other services (see Figure 2). These data are important because they reveal that, contrary to expectations, only a small proportion of

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the urban truck fleet is owned by commercial for-hire carrier. The great majority of urban trucks are operated by firms whose main activity is not transport per se, but operate trucks to carry their own goods. This is true for both large and small trucks.

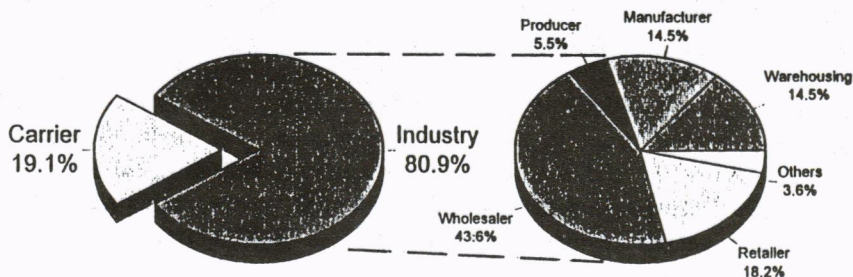


Figure 2 Types of Services in which Responding Trucks Operate

The commodities carried per day is shown in Table 2. There are about 156,000 tons of beverages that are picked up and delivered daily in the entire Metro Manila area. It represents half of the total volume of food commodities transported everyday.

Table 2 Commodities Carried on Trips

Commodity	Volume Carried/Day (tons)
Grains	102,354
Fish and Fish Products	287
Manufactured Foods	52,545
Beverage	156,200
Miscellaneous Goods	138
Total	311,524

Majority (88.9%) of the delivery trucks are empty in their return trip. Only 11.1% say that they carry a certain load, mostly empty bottles of the beverage industry. For those with carrying load, a very wide margin of difference is noticeable, that is, 88.8% of which are carrying less than half loads.

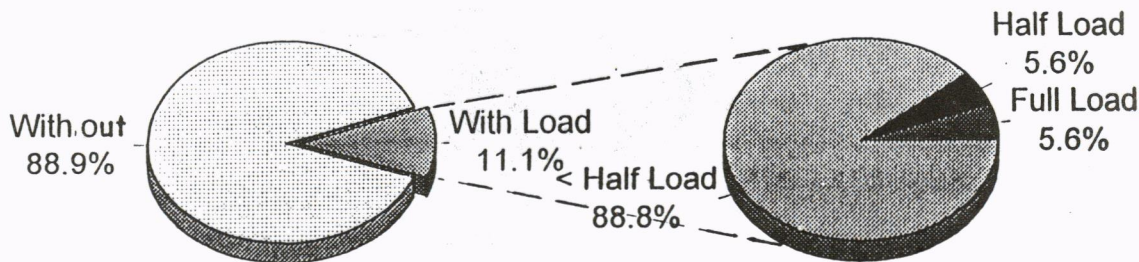


Figure 3 Return Trip Load

The percentage distribution for those firms with travel scheduling plan is only 41.7% while more than half of the respondents do not follow any schedule. It is a day to day operation wherein a carrier firm waits for customers to come in and hire their services.

Various firms in the freight transportation were asked to evaluate the performance of their trucks in the delivery of goods within the city. This performance is evaluated based on the 'certainty of arrival' or as we call today as 'just in time' performance. Survey results reveal that 44.4% of the respondents claimed that 70% of their delivery trucks arrived on time to its destinations but also a large proportion of about 38.9% argued that less than 50% of their vehicles had reduced its turn around performance because of congestion and the peak hour truck ban. Only 16% of the respondents claimed a high performance, perhaps this is largely due to the size of their vehicles which exempt them from the truck ban (refer to Figure 4).

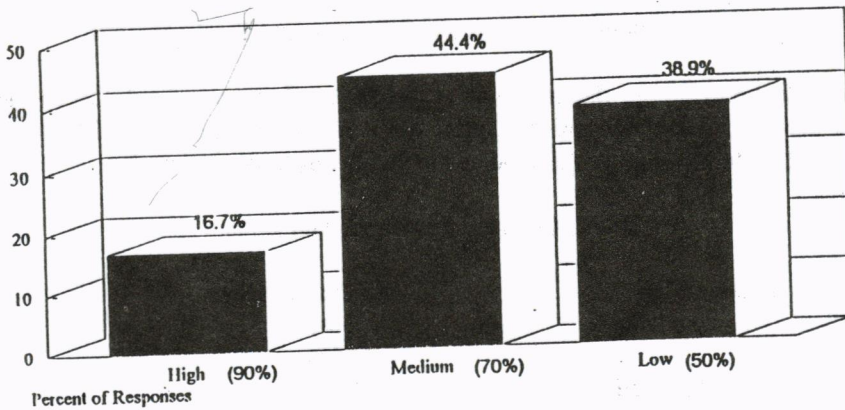


Figure 4 Certainty of Vehicle Arrival on Scheduled Time

The dominant geographical location of truck terminals are in the following areas: Manila, Malabon, Navotas, Valenzuela, Quezon City and Paranaque. The percent distribution as to the adequacy of the existing terminals, only 36.1% is attributed to be sufficient in terms of size, 16.7% are having terminals but inadequate to accommodate all the vehicles and 47.2% are truck operators without any garage or terminal facilities at all (see Figure 5).

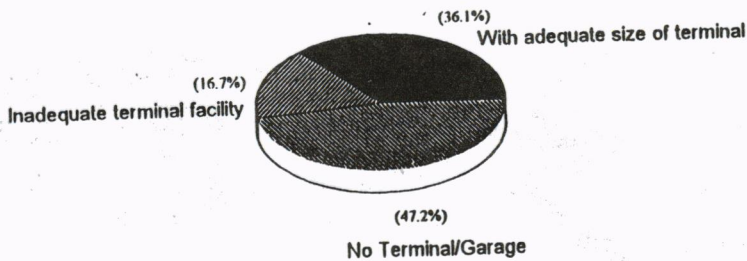


Figure 5 Size of Terminals

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2. FACTORS AFFECTING GOODS MOVEMENT

As earlier mentioned, there is a heavy reliance on trucks to move freight cargoes in Metro Manila. Given this reliance on trucking, there are obvious concerns about factors that can affect truck movements. Whether freight is moved long distance by air, water, rail or truck, it almost always is transported to its final destination by trucks and therefore, is subject to the constraints of the local road network and physical distribution facilities.

Government officials and private industry officials concerned with goods transport were separately asked their views to identify common perceptions of the 'problem'. Although both groups have conflicting perceptions of the problems, they arrived a common consensus on certain issues. From the perspective of all respondents, the survey reveals that the most important problems are shown in the following table.

Table 3 Common Issues and Problems Affecting Urban Goods Movement (Perspective from all Observations)

Factors	Rank
Traffic congestion	1
Truck ban	2
Laxity of enforcement	3
Poorly maintained roads	4
Drivers' behavior	5
Narrow roads	6
Pedestrians' behavior	7
Inadequate traffic control facilities	8
No define routes for trucks	9
Old bridges	10
Inadequate load capacity of roads	11
Overloading	12
Truck related accidents	13

This research tries to capture the problems that necessitates short-term solutions. The respondents were asked to list down the top five problems which they think should be addressed immediately, these are listed hereunder:

Table 4 Top Five Factors that Affect Goods Movement Ranked According to the Degree of Urgency

Top Five Factors	Percent of Responses
Enforcement	13.46
Traffic congestion	13.08
Drivers' behavior	11.92
Truck ban	11.15
Narrow roads	10.77

3. PROBLEMS ON PHYSICAL DISTRIBUTION

Problems on physical distribution fall into four categories, these are:

1. Urban intermodal problems;
2. Traffic conflicts and congestion;
3. Impact of truck operation to transport infrastructure; and
4. Institutional problems.

The study results reveal the following percentages of responses as presented in Figure 6 as far as traffic conflicts and congestion are concerned:

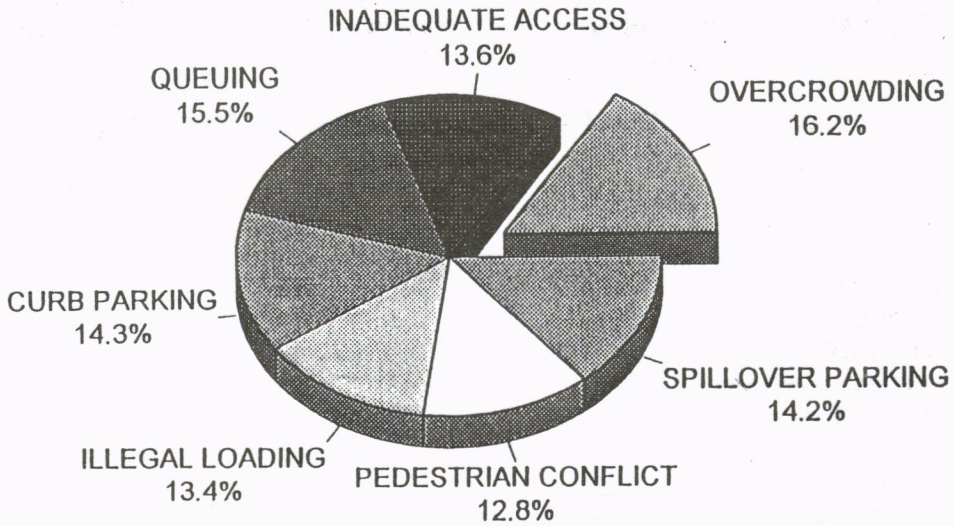


Figure 6 Traffic Conflicts and Congestion

From the herein results, it can be stated that there are many causes of problems in the distribution of goods. First of all it stems from the locational problems of terminals, garages, factories, warehouses, etc. in densely built-up and blighted areas where problems of overcrowding and mix-up multiple and varied activities are common. Moreover, because of its locational problems, traffic conflicts and congestion is obvious to occur. Curb double parking and on-street illegal loading/unloading are not oftentimes occur but a usual and a normal phenomenon in the sense that no violations or arrest of the drivers had been done. Very few truckers (only 36%) were found to have facilities to store part loads or have terminals/garage facilities and 64% don't have any. Rarely (only 8.3%) have businesses and industrial establishments in downtown areas provided off-streets loading facilities.

Poor location of these facilities led to many traffic conflicts like overcrowding of the facilities. There is an overflow of heavy vehicles even to the adjacent streets and there is stiff competition of using the curb space. Using the part of the roadway as a parking, or even as a garage is already common. These problems can be particularly severe in the ports and its nearby areas.

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Adverse impact to transport infrastructure arises from truck operation as revealed by the study. Overloading resulted in damaging the roads which are basically not designed to carry 30-40 tonner containers. Obviously, this will require a higher investment for road maintenance.

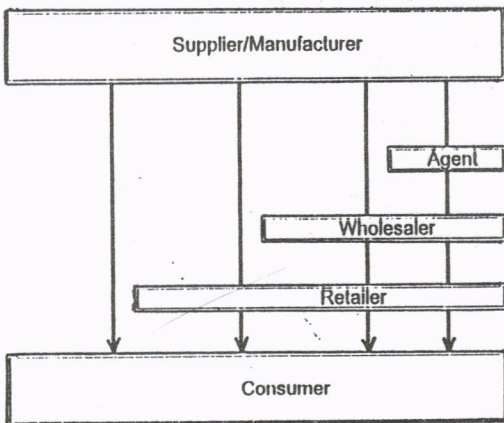
Among the institutional problems, inadequate financing for road infrastructures and enforcement seem to be the gravest. This is proved by the results of the study in which the industry as well as the public agencies have raised complaints on the inadequacy of the finances devoted to transportation. In addition to this, none of the respondents were satisfied with the present enforcement operation even the public authorities themselves.

4. DISTRIBUTION CHANNEL

Distribution channel is a route taken by a commodity between the point of its production and the point of its sale and/or consumption (Fawcett, McLeish and Ogden, 1992). The two aspects of distribution channel are: first, business or commercial aspect; second, the physical aspect. The former is linked closely to marketing while the later is linked to logistics and distribution management.

The commercial mechanism in any distribution channel relates to the number of transactions or stages a product goes through between manufacturer and consumer. Channel length will depend on the type of the product, and its traditional or developed trade structure. The physical aspect concerns the number of movement stages a range of products will go through in being transferred from manufacturer to the consumer. Ideally, these channels are shown in Figure 7.

A. DISTRIBUTION CHANNEL



B. LOGISTICS

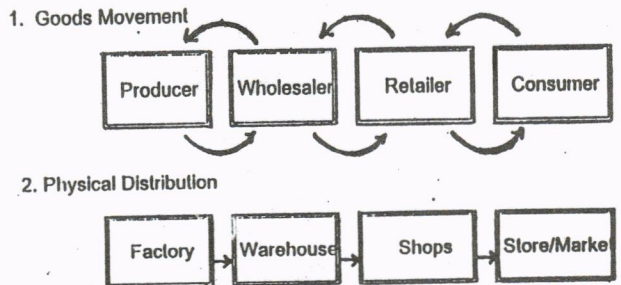


Figure 7 Distribution Channel

4.1 Fish Commodity

The Navotas Fishing Port Complex (NFPC) has been known as a wholesale market for fish and other sea products. It is strategically located in the municipality of Navotas where it has easy access to all other parts of the metropolis. The business channel of fish commodity from the complex to the different retail outlets in Metro Manila passes through several stages which are more often than not characterized by the presence of brokers. A broker or middleman acts as agent of the producers and negotiates contracts of purchase and sale of the fish catch consigned to them. The study revealed three types of business channels in fish distribution, they are:

1. Producer - Broker - Buyer
2. Producer - Broker - Buyer/Seller - Buyer
3. Producer - Exporter

First Channel: A substantial volume of fish pass this type of channel, a percentage of about 79.86% opt this type of transaction.

Second Channel: The next higher volume passes through this longest chain of channel with a percentage share of 15.57%. Sometimes, there are more than five middlemen before reaching to the consumers.

Third Channel: This is called the transshipment channel wherein the commodities are consigned to a specific regular buyer and therefore do not pass through a broker. That is, from the fishing vessels, the fish is immediately loaded to the trucks of the buyers. Normally, commodities under this category are intended for export or for local canneries this constitute the remaining 4.5%.

Commodity price increases at each stage, as intermediaries add their profit percentage. The more extensive the channel is the more bloated the price will be when the commodity reaches to the ultimate consumers. The business channel of the fish commodity with the price mark-up at each level is shown in Figure 8.

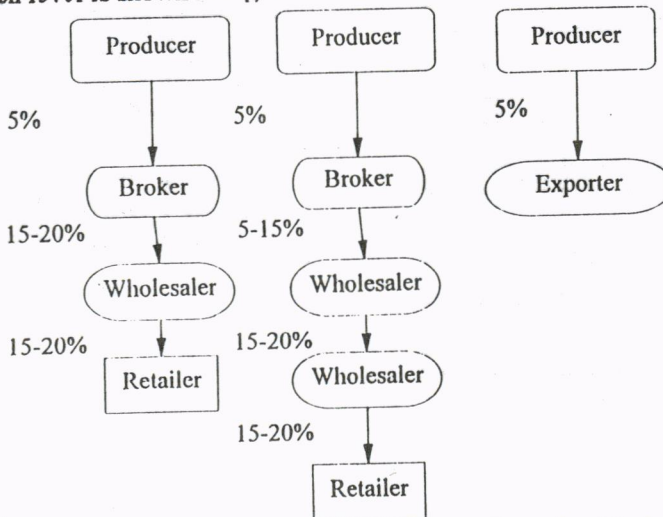


Figure 8 Business Channel (Fish Commodity Price Mark-up)

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There are two types of physical distribution channel identified in the study as far as fish commodity is concern. They are the flow of fresh fish from Navotas Port to retail markets and the flow of fish for canning from the port to canneries. The former is the shorter channel in which wholesalers/retailers pick-up substantial volume of fish either from the wholesale or retail market halls inside the fishing port. In this case, only one or two, transfers are being made from the port to the markets. While the later, this may require three or more transfers from the port to retail outlets (see Figure 9).

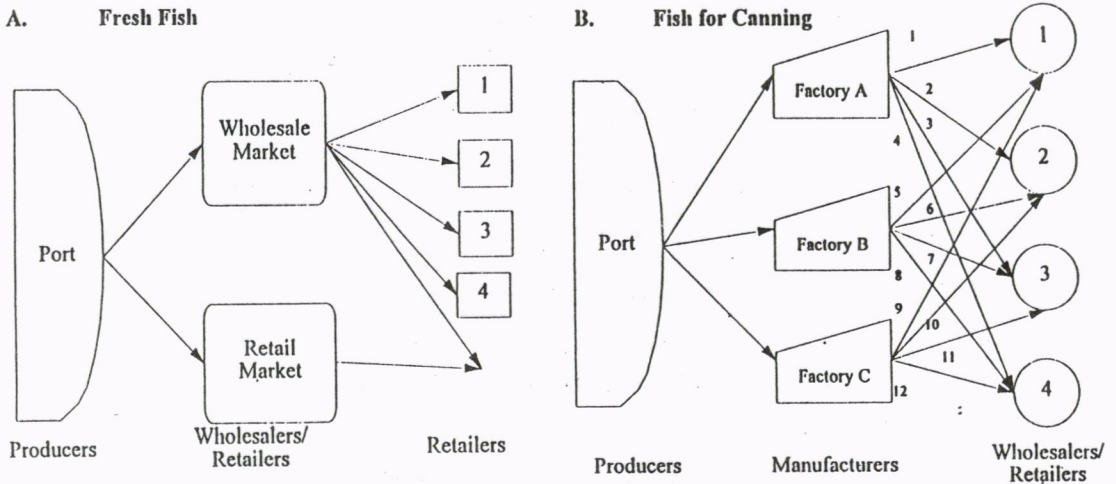


Figure 9 Physical Distribution Flow (Fish)

4.2 Beverage

A sample was taken from the leading beverage company in the country. For the entire Metro Manila area, the company has four sales offices servicing the northern, southern, eastern and western areas in the metropolis. Each sales office serves different satellite branches which in turn handles the distribution of their products to various retail outlets within their respective service areas.

Considering the beer and softdrinks commodity, the distribution channel is illustrated in Figure 10. As the good physically move through the physical distribution channel, the title or ownership of the goods move through the business channel at approximately the same time. The difference is that the number of stages, the physical distribution has seven while the business flow has five.

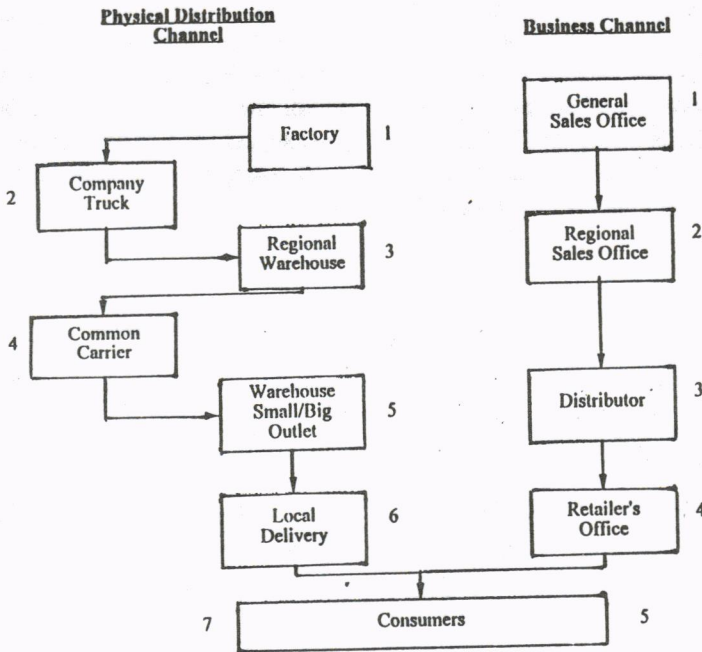


Figure 10 Distribution Flow (Beverage)

4.3 Grains

As far as grains is concerned, the internal distribution originates from the big warehouses owned by the government. A total of 17 warehouses are located in Metro Manila. Eight are housed near the boundary of Valenzuela and Meycauayan, Bulacan, five in Quezon City, two are in Marikina and two are in Taguig. The Meycauayan warehouses have the biggest storage capacity of more than one million bags. Transport deliveries from these warehouses are carried either by the government-owned or privately-owned vehicles to the different private warehouses in the metropolis.

Imported grains or cereals from other parts of the country are hauled either from the north or south harbors. For those which are shipped through barges, grains are hauled from the Pasig River.

4.4 Differences of Channel Networks

These numerous channel networks are mainly differentiated by the number and type of intermediaries who make up each individual chain. The 'manufacturer- wholesaler-retailer' is the traditional distribution channel. Typically, it was found out that the stages of movement are combined with the commercial transactions.

Taking a look of the price mark-up in the distribution of fish commodity, the first chain would only have an additional 5% increase from the original price of fish from the port. The second chain would have a maximum increase of 55% and a minimum increase of 40%. It can be noted that in the third chain, a maximum increase of 70% and the least increase is about 45% of the original price at the port. The price increases as the number of intermediaries increases.

Business Channel

1. *Fish*: Producer-Broker-Wholesaler-Retailer
2. *Beverage*: Manufacturer-Wholesaler-Distributor-Retailer
3. *Grains*: Producer-Wholesaler-Distributor-Retailer

For the fish commodity, the first three stages of business transaction is done outright in one place (inside the fishing port). So, the minimum transport transfer is only one and the maximum is three. While for the beverage and the grains, business transactions take place in every stages of distribution.

Physical Distribution Channel

1. (a) *Fresh Fish*: Port-Market
(b) *Fish for Canning*: Port-Factory-Warehouse-Wholesaler's depot-Shops
2. *Beverage*: Factory-Factory-owned Warehouse-Distributor's Warehouse-Shops
3. *Grains*: Farm/Port-Gov't-owned Warehouse-Distributor's Warehouse-Shops

For the beverage and the grain commodities, the minimum number of hauling or delivery between stages of distribution is three using the direct distribution and the maximum is determined by the number of wholesalers in between. Among the three commodities, fish has a direct distribution pattern from the source to the consumers.

5. SUMMARY OF FINDINGS

In summary, the findings of this research are the following:

- Only 6.2% is the average share of truck traffic. This minimal percentage often resulted in wrong understanding that truck movement is not so important to be included in the urban planning process. But it is important to remember that trucks play a major part in obstructing the traffic flow even when stationary as in the case of double parking, illegal loading/unloading, overnight parking, etc.;
- Contrary to expectations, only 19% of the urban truck fleet is owned by commercial-for-hire enterprises, the great majority are operated by firms whose activity is not transport per se but operate in order to carry their own goods;
 - 89% of the delivery vehicles are empty in their return trip;
 - 58% do not follow any scheduling plan, it is a day to day operation;
 - 83% of the trucks failed to arrive on scheduled time; and
 - 64% of the trucking firms and industries are without terminal/garage facility.

Location of existing urban freight transport facilities in Metro Manila is concentrated in Manila, Makati, Quezon City, San Juan, Caloocan City, Valenzuela, Navotas and Malabon. Similarly, these areas has also a greater industrial and population density compared to the

rest of the study area. The study revealed that the location of factories and warehouses of fish products are near the periphery of Manila Bay.

The existing commodity flow patterns can be summarily described in Figure 11. As shown from this figure, the present distribution channel is a very complex pattern. Following these different distribution patterns, the delivery of goods will intermingle on the streets everyday. If we consider the other numerous commodities, we can imagine how complex the pattern is.

The top five problems that need immediate attention include: enforcement, traffic congestion, driver's behavior, truck ban and narrow roads.

Problems on physical distribution are numerous, they consist of the following: lack of opportunity for facility expansion or modification, facilities are poorly located, conflict with other land uses, overcrowding of the facilities, queuing of trucks or overflow on adjacent streets, competition of curb space, illegal usage of loading zones, damage to roads and bridges because of overloads, huge investments for maintenance, inadequate financing for infrastructures, enforcement and lack of coordination between government agencies.

6. CONCLUSION

1. Previous transport planning has not been able to fully address the real causes of the problems affecting goods movement in Metro Manila.
2. The present truck operation are not so efficiently carried out, such as deliveries to sites within the inner city areas where there are no off-street facilities or deliveries to sites where access is difficult or loading/unloading facilities are inadequate.
3. The traditional method of distribution channel are complex thus it makes more expensive and uneconomical patterns.
4. The private industries/commercial carrier have failed to establish a distribution channel that will eliminate unnecessary transport transfers from one depot to another. The transportation cost factors are especially important in determining the firm's selling price of its products.

7. RECOMMENDATION

1. Private industries had to become involved in transportation related aspects of logistics at both the operating and policy levels. In addition, and more recently, the deregulation of trucks-for-hire vehicles led to changes in which operating and policy level decisions had to be made by the users of transportation.
2. From a transport policy viewpoint, the main concern is with the type and extent of government intervention in and regulation of the freight industry. Some pertinent consideration should include:

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- facilitate the movement of trucks, or control the routes which trucks might take, mainly through the application of traffic management techniques;
- safety aspects of truck and freight movement;
- operating efficiency of publicly-owned facilities like rail, airport and seaport freight terminals;
- improvement of urban transport infrastructure; and
- consultation between government, private industries and unions.

3. Much of the total vehicle volume in the streets is comprised of the car traffic. Proper management measures should likewise be focused on car users especially in the ports and other truck-trip generating areas. However inclusion of trucks in traffic management especially related to engineering measures is recommended.

Based from the herein findings, appropriate measures to improve the food commodity movement include:

- carrier planning: joint delivery system or provision of distribution center
- route system
- Just-in-time technique

Carrier planning involves in terms of geography, markets, personnel, equipment and terminals. Its function is to help the top management to make decisions that have long range implications. Planning may also be aimed at customers, certain hauls, or certain geographic service areas. Direct or joint delivery can be used whichever is applicable only after proper planning study is undertaken (see Figures 11 and 12).

Route system: In terms of geography, it is necessary for most carriers to set route system. Most route system falls into two or combine systems. The grid system, running all vehicles on east-west or north-south routes or the collector system. Collector is a large terminal where traffic from smaller terminal is collected and sorted for shipment outward to other terminals within a certain service area or to other collector, for ultimate distribution to more distant terminals.

Just-in-time (JIT) management: Firms may improve operation flows, and in the process, minimizing inventory levels. The new delivery requirements are smaller lots, frequent deliveries, little safety stock to hedge against quality rejection and the process breakdown. It is based on a production approach in which the firm maintains very small quantities of production inputs. JIT has many advantages. Because low levels of inventory are on hand at any one time, less warehouse space is needed at the production facility. Also with less inventory, the firm has less money tied up in inventory related costs and input product quality greatly increases.

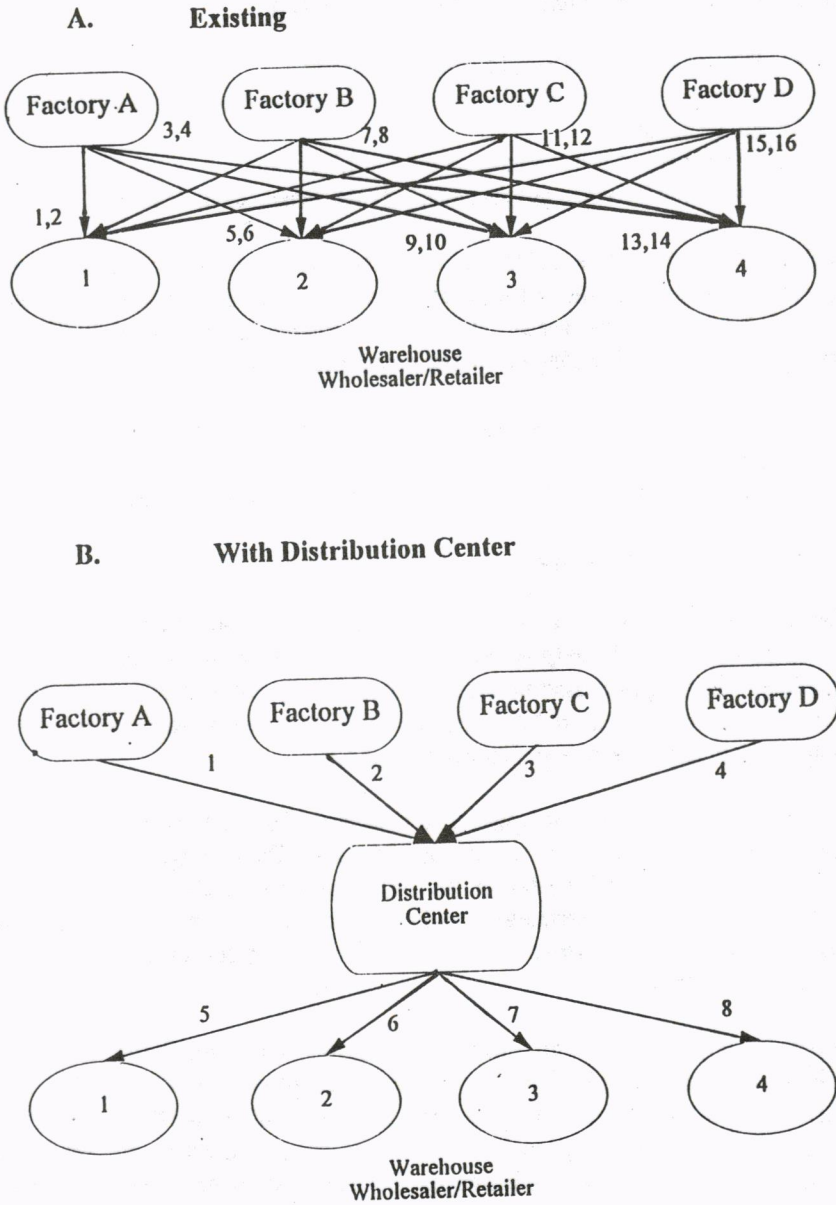
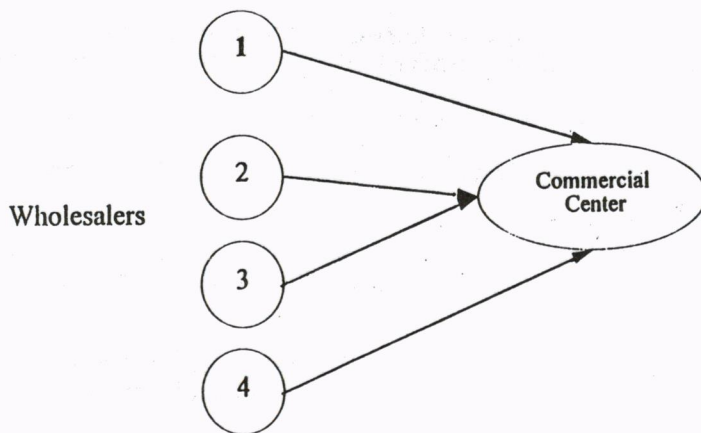


Figure 11 Physical Distribution Flow - Stage 1

Facilities and Commodity Flow Patterns

A. Direct Delivery



B. Joint Delivery

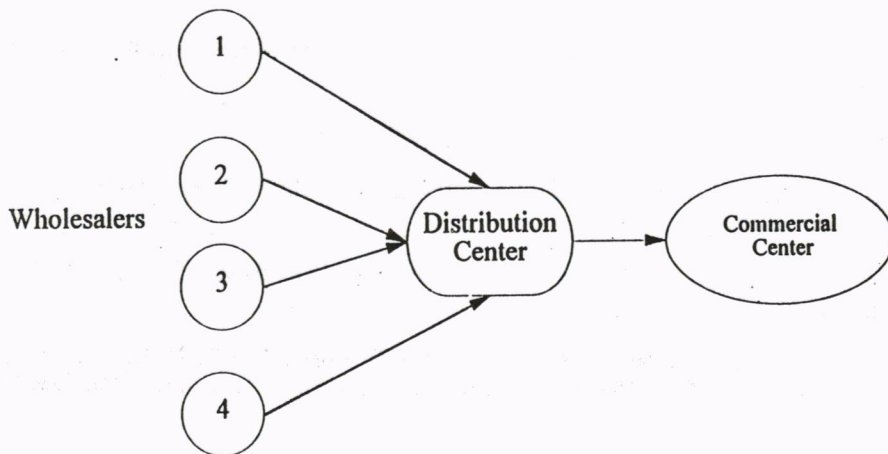


Figure 12 Physical Distribution Flow - Stage 2

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INTERVIEW SCHEDULE

CODE NO.

**BASIC STUDY OF URBAN GOODS MOVEMENT IN METRO MANILA:
AN ASSESSMENT OF PHYSICAL DISTRIBUTION FACILITIES
AND COMMODITY FLOW PATTERN**

I. FOR GOVERNMENT OFFICIALS AND PRIVATE OFFICIALS

1. Common problems/issues regarding goods or trucks movement in MManila. On a scale of 1 to 10 rank the following according to its importance (1 is the highest rank).

a	Restricted time of operation (truck ban)	h	Narrow roads
b	Traffic congestion	i	Old bridges (with limited capacity)
c	Overloading	j	Inadequate load capacity of road
d	No definite routes	k	Inadequate traffic control facilities
e	Drivers' behavior	l	Truck related accidents
f	Pedestrians' behavior	m	Laxity of enforcement
g	Poorly maintained roads	n	Others

2. As mentioned above, list down the top five problems which do you think should be addressed immediately?
Letter Nos. _____

3. Briefly state your reasons for this opinion.

a	_____	d	_____
b	_____	e	_____
c	_____	f	_____

4. Problems on physical distribution facilities at present. Please answer with a scale from 1 to 5
5 - is the most typical occurrence 1 - is the least typical occurrence

A. Urban Intermodal Problems

a	intermodal facilities are poorly situated	d	limited/difficult access to emergency & other services
b	little or no opportunity for expansion/mod'n.	e	Other reasons _____
c	location in conflict with other land uses		

B. Traffic Conflicts and Congestion

a	Inadequate access to major highways	e	Illegal usage of loading zones
b	Overcrowding of the facility itself	f	Conflict with pedestrians
c	Queing or overflow of adjacent streets	g	"Spillover" parking on nearby roadways
d	Competition of curb space	h	Others

C. Impact of Truck Operation to Transport Infrastructure

a	Damaging roads & bridges with overloads	d	Giving rise to geometrical inadequacies as vertical & hor. clearances, turning radii, locational signs, etc.
b	Damages to roadway signs, signals, poles, etc.	e	Others
c	Huge investment for maintenance		

D. Institutional Problems

a	Inadequate financing for road/bridge infra.	e	Maintenance of standardized maximum sizes and weights is increasingly difficult
b	Enforcement	f	Others
c	Lack of inter-jurisdictional coordination		
d	Inadequate financing for facility impvt. & maint.		

Facilities and Commodity Flow Patterns

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5. In your opinion, what possible solutions to solve this problem ? On a scale of 1 to 10, rank the following in terms of its implementability.

- a land use regulation, zoning
- b strengthening traffic management set-up
- c stricter traffic enforcement
- d signalized intersection or grade separation
- e upgrading of roads/strengthening of bridges
- f strengthening the National Building Code
- g estab. should provide their own facilities
- h tax incentives to industries w/ facilities
- i relocate distribution centers outside CDB area
- j Others

Why ?

- a
- b
- c
- d
- e
- f
- g
- h
- i
- j

6. Specifically, what should the government do in the future to minimize or eradicate the current problems? Please check.

- a vehicle type regulation
- b parking restriction
- c license regulation
- d equipt traffic enforcers
- e mass transit (EDSA LRT)
- f educate drivers

- g completion of C-3, R-10, elev. expressway, etc.
- h appropriate funding of transport infra projects
- i passage of proposed Bill revising the allow. loads/wei
- j restriction on use of unworthy/old vehicles
- k Others

7. What do you think the role of the private sector (truckers and industry) in solving these problems? Please check.

- a provide investments for their own facilities
- b define the routes (for carrier and industries)
- c cooperative delivery
- d improve info. & communication system

- e big users should encourage to set-up their own facilitie
- f coordinate with government agencies
- g improvement of loading/unloading space
- h Others

ii. FOR GOVERNMENT OFFICIALS ONLY

8. What are the existing policies, operation regulations, and other legislations regarding goods and truck movement as far as the jurisdiction of your office is concerned ?

- a Franchising of trucks-for-hire
- b Freight rates - de facto regulation
- c Trucking operation policies, e.g. truck ban
- d Motor vehicle inspection
- e regulate load limits

- f traffic enforcement policies
- g imposition of penalties
- h apprehend violators
- i Others

9. With reference to No. 8, what are the strengths of these policies ?

10. What are its weaknèsses ?

iii. FOR TRUCKERS AND INDUSTRIES ONLY

11. Type of services engaged in

- a Carrier
- b Warehousing
- c Manufacturer
- d Producer

- e Wholesaler
- f Retailer
- g Others
- h

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12. Total number of vehicles or trucks in use					
Type and size trucks		Owned	Rented	RHD	> 5 yrs. old
a	truck (4 wheels)				
b	truck with 2 axles (6 wheels) 8 - 16 T kgs.				
c	truck with 3 axles (10 wheels) 25 T kgs.				
d	truck semi-trailer w/ 3 ax (10 wh) 20 T kgs.				
e	truck semi-trailer w/ 4 ax (14 wh) 27 T kgs.				
f	truck semi-trailer w/ 5 axles (18 wheels) 33 T kgs.				
g	truck-trailer (20 wheels) 34 T kgs.				
h	Others 41 T kgs.				
13. Trucking rates			B. Transport Cost		
A. Fee structure for "rented" service		Rates		For "owned" vehicles	
a		a		a	
b		b		b	
14. Type and volume of goods or commodities transported					
Type		Unit	Volume	Frequency	
a				more than once daily	a
b				daily	b
c				more than once a week	c
d				weekly	d
e				others	e
15. Origin		Destination 1	Destination 2	Destination 3	Destination 4
16. Specific routes					
17. Return trip		18. If with load			
a	With load	a	Full load	<input type="checkbox"/> c	Empty
b	Without load	b	Half load		
19. Do you follow travel scheduling plan ? <input type="checkbox"/> Yes <input type="checkbox"/> No					
20. Certainty of delivery in the desired time slot					
a	High (90 % of vehicles arrived on time)	<input type="checkbox"/> c Low (less than 50 % of vehicles arrived on time)			
b	Medium (70 % of vehicles arrived on time)				
21. Existing Facilities		Area (sq. m.)	Location		
a	Truck Terminal				
b	Warehouse				
c	Loading/Unloading facility				
d	Factory				
e	Trading Center				
f	Others, specify				
22. Future plans (5 or more years from now)					
a	Acquire additional unit of trucks	<input type="checkbox"/> c Relocate terminal/warehouse			
b	Expansion/improvement of facilities	<input type="checkbox"/> d Others			
23. Vehicle home base					

Interviewed By: _____ Date