Journal of the Eastern Asia Society for Transportation Studies, Vol. 6, pp. 214 - 224, 2005

IMPACTS OF GOVERNMENT REGULATION ON THE SUSTAINABILITY OF PARATRANSIT SERVICES IN THE PHILIPPINES: CASE OF FX SERVICES BETWEEN MANILA CITY AND QUEZON CITY

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Abstract: The FX type of para-transit service emerged about ten years ago and has become a significant part of the public transport system. However, in its current form, the operations are not complying with the actual permissions granted by the public transport regulatory agencies. Bringing operations in line with existing franchise requirements appear as challenges to continued existence in current form. Based on the financial analysis conducted considering passenger occupancy and fare structure, it appears that the FX operations under recently proposed regimes will lose the financial viability that they currently enjoy. Although these results are based on information on services between Manila City and Quezon City only, these results provide an indication of the possible outcome. In support of its continued existence, it is proposed that FX services be placed under the Filcab classification, allowing continued service similar to their present condition, but under a rationalized allocation of the service.

KEYWORDS: financial analysis of para-transit, public transport regulation

1. INTRODUCTION

1.1 History

Toyota Motor Company in the Philippines introduced the Tamaraw FX in 1993. This vehicle was designed and marketed as a smaller type of utility vehicle (as compared to the larger utility vehicles in countries like the United States). The Tamaraw FX could basically seat a driver and one passenger in front, three passengers in the second row, with a relatively large space left for luggage. This luggage space could also be used to provide additional seating space, although with a rather limited legroom. This

Figure 1. Tamaraw FX operating as public transport

vehicle, as well as comparable offerings from other automobile manufacturers, would eventually be used as a form of public transport mode, colloquially referred to as the "FX." (see Figure 1.) Some uncertainty still exists regarding the exact time and circumstance of its introduction as a public transport mode in the Philippines. However, anecdotal accounts point to its initial use as temporary replacement of bus services that were stopped in an outskirt municipality of the metropolis. The bus services were apparently stopped because of conflicts between residents and the bus operators. Thus, the operators decided to stop operations. The residents, in need of a public means of transport were permitted to operate *FX*-type vehicles between their residential subdivision and one of the major urban commercial centers of Metro Manila for the time being. It is hypothesized that after observing this type of operation, other persons began using the same type of vehicle to provide a similar type of service in other parts of the metropolis. This type of service can be described as being a point-to-point service with limited pick-up and drop-off between two or more origin-destination pairs, with no fixed routes. Fares are paid per passenger, with a minimum amount charged, plus an amount that increases with the travel distance.

In the past, modes like jeepneys and tricycles were initially outside of government planning and regulatory frameworks and only after their service markets developed and usage became established did the government take steps to regulate them. The *FX* followed this trend, operating in a manner that was outside of the existing frameworks. In 1997, a Department Order from the Department of Transportation and Communication (DOTC)[1] sought to clearly define all the modes of public transport that would be allowed to operate, according to their seating capacity, gross vehicle weight, body make, route types, ventilation, fare structure as well as other pertinent operating conditions. In this order, vehicles with a body make of the Asian Utility Vehicles (AUV) of which the Tamaraw FX is just one example, were allowed for registration under the classifications of (1) Public Utility Jeepney, (2) Filcab, (3) Vehicles for Hire, (4) Shuttle Service, (5) Tourist Transport Service (6) School Transport Service; and (7) Mega-Taxi.[2] These classifications and their relation to the existing usage of AUVs are further discussed in part 2 of this paper.

1.2 Current Situation

At present, despite government's efforts to clarify the nature of public transportation services that are allowed, two major types of violations are still rampant. The first type is a lack of compliance by approved service providers to the standard classifications that they may fall under, especially in terms of operating terms on route and fare regulations. The second is a more serious threat known as "colorum[3]" which are the operators of Public Transport without any approval from the Land Transportation Franchising and Regulatory Board (LTFRB) and are using privately registered vehicles in clandestine operations. These *colorum* operators charge roughly the same fares as the approved operators but are not insured as public conveyance and do not provide for the safety and security of passengers. In the meantime, the LTFRB has created a new classification called AUV-Express[4] that would supposedly have the same operating characteristics of the "FX", such that these AUVs will operate in a point-to-point system, wherein they would only be allowed to load and unload passengers in

[1] DOTC Department Order 97-1097 : Providing Standard Classification for All Public Transport Conveyances
[2] DOTC Department Order 98-1127 : An Order Providing Additional Types of Public
[3] Filipino slang word referring to unlicensed or unregistered public utility vehicles
[4] The implementing rules and regulations on the franchising of the AUV Express or FX shuttles is expected to be released by the first quarter of 2005.

designated terminals, although these routes and terminals have yet to be designated. The use of the AUV moniker is intended as a generic terminology for the FX type of operation. A federation of public transport drivers and operators using AUVs claimed membership of 14,000+ in Metro Manila[5] which is in stark contrast to the official number of franchises that allowed to convert to the AUV-Express of around 9,044 units[6] a number which does not include the 5,766[7] Mega-Taxis (see also section 2.1).

A significant number of public transport vehicles using the AUV body make have been observed as operating not in accordance with their granted franchise, in terms of the fares being charged and the area or route of operation, the information of which is painted on the side of the vehicle. However, the AUV Express operations would be arranged in such a way as to avoid competition with prior operations of legitimate bus and jeepney[8]. It has also been observed that many of these operators are of the driver-owner type[9], indicating operations on a cottage industry scale. Recently, a downturn in the economic situation, exacerbated by the continuous increase in oil prices has led to increased costs of operating public transport in the Philippines. However, the public transport fare levels in general have failed to keep up with the increase in operating costs. This has led to greater difficulties for operators to continue their operations. Many have resorted to cost cutting and this has apparently led to the deterioration of the running fleet, indicated by the age of vehicles that are still being operated[10]. The small size of the operator entities has made them particularly susceptible to the fluctuations in operating cost conditions and it is anticipated that this will have serious ramifications to the sustainability of the FX type of service.

1.3 Studies on the FX

Kamid (1999) studied the socio-economic and trip characteristics of the Tamaraw FX riders. The thesis discussed more about the passengers characteristics than the FX operation aspects. Another study by Cocson and Contrano (2003) identified FX routes between Quezon City and Manila City (which are both in Metro Manila) and surveyed operators regarding their operating practices, such as the number of hours a day that they operate, the number of days a week, the number of round trips they make in a day, how much they spend on fuel, etc. This study also identified the problems concerning FX operations such as getting caught by traffic enforcers due to their extra-legal nature. Although this paper discussed about the FX operations, it did not include the profitability aspects of the transport mode. Gesulgon, Madamba and Diaz (2004) on the other hand studied the "in-use" fares which are not following the approved franchises of these operators but are nevertheless being used by the operators and accepted by the riders. While the study of Cocson and Contrano, as well as

[5] Jun Magno, President of the Confederation of FX Operators and Drivers, while being interviewed on cable television program, On-Line, ABS-CBN News Channel (ANC)
[6] According to Ms. Maria Elena Bautista, Chairperson of the Land Transportation Franchising and Regulatory Board, in an interview with Philippine Daily Inquirer, October 7, 2004
[7] Anna Regidor. 3,000 FX taxi drivers rally in front of LTFRB Protesting conversion of AUVs to AUV Express, & 'Mega' to regular taxis. Manila Bulletin, October 7, 2004
[8] According to Ms. Maria Elena Bautista, Chairperson of the Land Transportation Franchising and Regulatory Board, in an interview with Manila Times, August 27, 2004
[9] Contrano and Cocson, unpublished undergraduate thesis, Dept. of Civil Engineering, University of the Philippines, Diliman
[10] Gesulgon and Madamba, unpublished undergraduate thesis, Dept. of Civil Engineering, University of the Philippines, Diliman

thatof Gesulgon, Madamba and Diaz did discuss the implications of capital expenditures and operating and maintenance costs on the profitability of FX operations, these studies, however did not consider the level of net income of the driver and/or owner of the vehicle. Thus, this study will attempt to consider to some extent.

1.4 Objectives of the Paper

Taking off from the aforementioned history and current situation, the authors have undertaken the writing of this paper with the following objectives:

a. To describe the emergence of "FX" services (section 1)
b. To characterize "FX" operations (section 2)
c. To analyze its sustainability under different operating scenarios; and (section 3)
d. To propose the possible role of the "FX" among the other PT services. (section 4)

2. CHARACTERIZATION OF THE "FX" SERVICE

2.1 Legal Definitions of Public Transport in the Philippines

The Department of Transportation and Communication (DOTC) issued Department Order 97-1097 in September of 1997 a standard classification to be used as the basis for the issuance of Certificates of Public Convenience (CPC) for all Public Utility Vehicles (PUV). In the said Order, the following classifications (out of a total of 12) allow the use of the AUV body make. Excluding School Transport Services, which carry unmistakable markings on the body panels, these classifications are shown in Table 1.

As can be seen in Table 1, there is a wide selection of modes for which an AUV may be granted a franchise. In addition, the classifications are described according to their Ventilation, which may be Ordinary or Air-Conditioned, and Gross Vehicle Weight. Fares also differ between the different ventilation types. The Mega-Taxi classification, which is the most observed vehicle plying the FX type of operation, was added to the initial classifications by way of DOTC Department Order 98-1127.

Based on the above set of classifications, it would appear that present FX operations would fit within the Filcab class that allows for use of the AUV, allows the designation of routes and controls on the number and location of stops, and allows for the setting of distance based or zonal fares.

2.2 Service Characteristics

The service characteristics that are described in this section are ergonomics and a comparison of the FX with other common public transportation modes in Metro Manila in terms of speed, comfort, fare and seat availability.

Table 1. Standard Classifications of Public Transport Allowing the Use of AUV Body Make

Class	Seating Capacity (pax)	Body Make	Routes	Fare	Operating Conditions
Public Utility Jeepney	12-32, excluding driver	Jitney type / AUV	Fixed routes (regular, limited-stop or express) or variable routes within a specified are as authorized	Based on distance or zonal as authorized by LTFRB	May be allowed to carry passenger or freight or both for provincial operations; Operation is discouraged along major arterials in urban areas; Ceiling distance, unless authorized otherwise: Urban routes – 15 km; Inter-urban / provincial routes – 30 km
Filcab	7-11, excluding driver	Mini-jitney / AUV	Fixed routes (regular, limited-stop or express) or variable routes within a specified are as authorized	Based on distance or zonal as authorized by LTFRB	
Vehicles -For-Hire		Sedan, AUV. Pick-up, Van, Station Wagon or Coach	No fixed route	Per engagement plus fee per unit time as approved by LTFRB	
Shuttle Service		Sedan, AUV. Pick-up, Van, Station Wagon or Coach	No fixed route	Based on distance or zonal as approved by LTFRB	Basis for granting of franchise is a valid contract between an establishment or residents' association and the common carrier; Special service to employees or association members only, no picking up of passengers between designated termini
Tourist Transport Services		Sedan, AUV. Pick-up, Van, Station Wagon or Coach	Special tour trips, without fixed routes, to/from any tourist area	Rates as approved by LTFRB	Accreditation by Philippine Tourism Authority (PTA) / Department of Tourism (DOT); No picking up of passengers along the way
Mega-Taxi	7-14, including driver; cargo space availability	AUV	No fixed route within a specific area	Minimum fare plus fee per unit distance and unit time as authorized and duly calibrated	

Vehicle and Ergonomics

Heavy congestion during peak hours contributes to lower turn around times for service providers. Since service providers are limited in number, many passengers are often seen waiting during rush hour. Passengers often accept cramped seating conditions. Referring to Figure 2, we can see how passengers are arranged. From an ergonomic standpoint, cramming two passengers where only one is provided for (front passenger seat) and where four passengers are crammed into a space designed to comfortably seat three, it is easy to see the discomfort that passengers have to endure. However, since FX services are generally provided with air conditioning, the close contact among passengers is somehow tolerated. Also, since FX are relatively faster than other public utility modes (with the exception of taxis), the time spent in the FX (under cramped condition) is less. The air-conditioning also gives passengers the benefit of a relatively smoke-free environment.

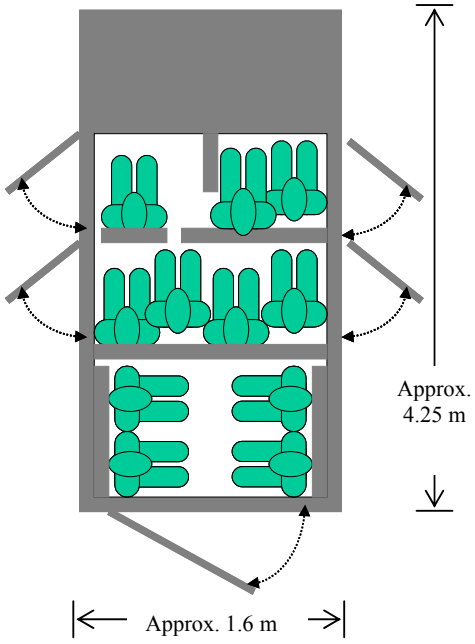

Figure 2. "Usual" layout of an FX

Comparison of the Service Characteristics of the FX with other Public Transport Modes in Metro Manila

Table 2 provides an ordinal and qualitative comparison of service characteristic of the FX with respect to these other modes. The table shows that FX provides lower speed and comfort than Taxis, but does it at lesser cost. On the other hand, when compared to Bus and Jeepney, whether air-conditioned (AC) or not, FX provides higher quality of service at a higher cost than the other modes. Thus, Table 2 gives an idea of how FX fits in with the other existing modes, in terms of level of service.

Table 2. Comparison of FX Service Characteristics with other Public Utility Vehicles

Service Characteristic	Mode				
	Taxi	Bus		Jeepney	
		AC	Non-AC	AC	Non-AC
Speed	Lower	Higher	Higher	Higher	Higher
Comfort	Lower	Same	Higher	Same	Higher
Fare	Lower	Higher	Higher	Higher	Higher
Seat Availability	Higher	Lower	Lower	Lower	Lower

From an operational standpoint, FX services are generally available during the same times that other public transport services are available. It can be observed that they are especially numerous during the morning and evening rush hours. Because they have lesser capacity than buses or jeepneys, they tend to stop fewer times along the course of a trip to pick up passengers. On the other hand, during times when the vehicle is not yet filled, the drivers usually stop where passengers are waiting. The lack of mode-specific public transport stops

makes drivers stop more often than they have to, especially since the only way they can truly know that a waiting passenger is interested in the FX service is by asking them directly. The driver flashes a small signboard indicating his general direction and waits to see if his prospect will get on board. This makes for a hit-and-miss kind of situation. However, once the FX has been filled up, the driver generally has the flexibility to pass along streets parallel to the streets being used by the other public transport services. This flexibility adds to the ability of the FX to achieve a higher travel speed.

3. Financial Analysis of Current Operations

As mentioned earlier in this paper, there are many challenges to the continued existence of the FX as a viable mode. The most recent comes in the form of much stricter enforcement of the existing franchise limitations for those operators with franchises, but which they are not following to the letter. At the same time, a crackdown on illegal operations will naturally affect the overall FX operations. In this paper, the authors decided to investigate the implication of reduced fares to the level of profitability of the FX operations. Using the data collected by Gesulgon, Madamba and Diaz (2004) and inflation adjusted operating cost figures of Cocson and Contrano (2003) further economic analysis is made with the inclusion of a minimum wage for the driver of the vehicle.

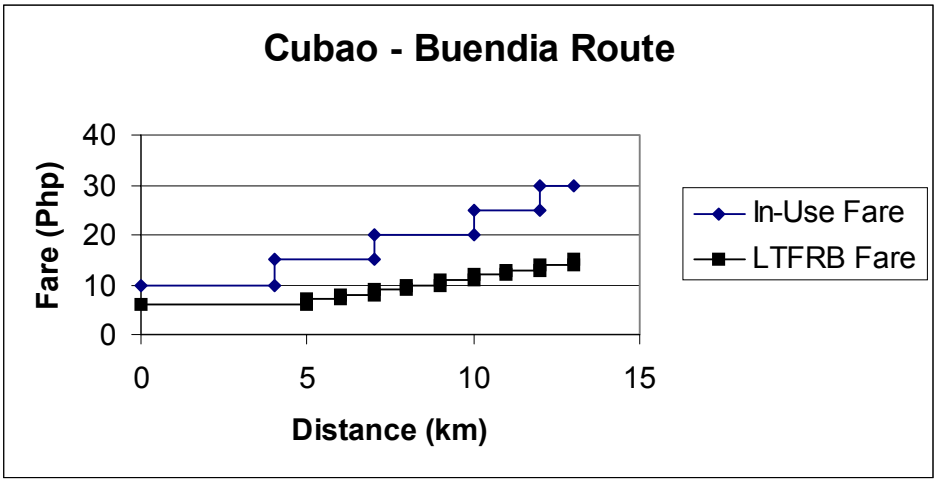

Figure 3. In Use FX Fares for the Cubao-Buendia Route versus Fares for Vehicle-for-Hire (LTFRB) Fares

Figure 3 shows a typical fare structure being used on one of the FX routes between Manila City and Quezon City. It shows that roughly 10 Pesos is charged for the first 4 kilometers and an additional 5 Pesos is added for each additional increment of 3 kilometers travel distance. On the same figure, a trace of the standard fare structure corresponding to Vehicle-For Hire (under which AUVs are allowed) as well as for Air-Conditioned Public Utility Jeepneys.[11] Under the vehicle-for-hire fare scheme, the passengers would be charged 6 pesos for the first 5 kilometers and an addition 1 pesos for each additional kilometer of travel[12]

[11] Land Transportation Franchising Regulatory Board (LTFRB). Imposition of Standard Fare Rates on Vehicle-for-Hire Service, Memorandum Circular Number 2003-014 of the LTFRB, 2003.

[12] Use of the Vehicle-For-Hire rate structure, according to Len Bautista, Chairperson of the LTFRB, as quoted from "FX vs LTFRB Order" Philippine Daily Inquirer, dated October 7, 2004

while For-Hire Vehicle operators were seeking a fare increase to 10 pesos for the first 5 kilometers and 1.50 pesos for each additional kilometer. However, only the first two fare structures are used in the following analysis as the potential fare structure that may be imposed on the current FXs in the near future.

The abovementioned fare structures were used in addition to the following assumed scenario parameters:

- Vehicle purchase cost = 400,000 pesos (based on the study of Cocson and Contrano)
- Investment recovery period = 5, 7 and 9 years
- Rate of return of 18%, corresponding roughly to prevalent financing rates for automobile purchases
- Minimum wage of 280 pesos per day (coming to 73,000 thousand a year) assuming 52 weeks a year and 5 days a week work schedule, assumed as the base salary of a driver
- Vehicle Operating Costs quoted by the Department of Public Works and highways, which are used by the DPWH for feasibility studies were used in the analysis to project vehicle operation and maintenance costs
- Rates of registration costs, insurance were not included

The analysis entailed the calculation of the Annual Worth of the operations. A positive value would mean that the operation is viable. The scenarios also looked at the effect of passenger occupancy, route length, and number of roundtrips on the calculated annual worths. The main findings are that:

- When the In-use Fare rate is used, operators cannot make a profit, even at a 9-year investment recovery period with an average passenger occupancy of 5 customers. Highest net annual worth is still negative at –107,767 Pesos for 15 km long route and 10 round trips a day. (Table 3) This corresponds to the effect on operators who will be reverted to a 5 passenger limit.
- When the Vehicle-For-Hire rates are used, the highest possible annual profit at a 9-year recovery period is still negative (-68,347) for a 5-kilometer long route with 10 roundtrips per day and 10 passenger occupancy. (Table 4)
- At the in-use rate fare rates, 7 year recovery period, 7-passenger occupancy, no route is viable if less than 3 roundtrips can be made in a day (Table 5)

Table 3. AW(18%), 9 Years, and 5-Passenger Average Occupancy, In-Use Fare

Route Length (KM)	Average Fare	Roundtrips per day				
		6	7	8	9	10
5	10	(154,320)	(152,380)	(150,440)	(148,501)	(146,561)
10	20	(142,681)	(138,802)	(134,923)	(131,043)	(127,164)
15	30	(131,043)	(125,224)	(119,405)	(113,586)	(107,767)
20	35	(236,726)	(248,521)	(260,316)	(272,110)	(283,905)
25	45	(225,088)	(234,943)	(244,798)	(254,653)	(264,508)
30	55	(213,450)	(221,365)	(229,280)	(237,196)	(245,111)
35	60	(319,133)	(344,662)	(370,191)	(395,720)	(421,249)

Table 4. AW(18%), 9 Years, and 10-Passenger Average Occupancy, Vehicle-For-Hire Fares

Route Length (KM)	Average Fare	Roundtrips per day				
		6	7	8	9	10
5	6	(107,391)	(97,630)	(87,869)	(78,108)	(68,347)
10	8	(236,539)	(248,302)	(260,065)	(271,829)	(283,592)
15	10	(365,686)	(398,974)	(432,262)	(465,550)	(498,838)
20	11	(541,762)	(604,396)	(667,030)	(729,664)	(792,298)
25	13	(670,909)	(755,068)	(839,227)	(923,385)	(1,007,544)
30	15	(800,057)	(905,740)	(1,011,423)	(1,117,106)	(1,222,789)
35	16	(976,133)	(1,111,162)	(1,246,191)	(1,381,220)	(1,516,249)

Table 5. AW(18%), 7 Years, and 7-Passenger Average Occupancy, In-Use Fares

Route Length (KM)	Average Fare	Roundtrips per day					
		3	4	5	6	7	8
5	10	(125,197)	(107,615)	(90,032)	(72,449)	(54,867)	(37,284)
10	20	(72,449)	(37,284)	(2,119)	33,046	68,211	103,376
15	30	(19,702)	33,046	85,794	138,541	191,289	244,037
20	35	(49,079)	(6,124)	36,832	79,787	122,742	165,697
25	45	3,669	64,207	124,744	185,282	245,820	306,358
30	55	56,416	134,537	212,657	290,778	368,898	447,019
35	60	27,039	95,367	163,695	232,023	300,351	368,679

From the above tables it is obvious that any change in the fare structure will have serious implications to the viability of the operations of the FX. If the Vehicle-For-Hire fare is imposed, there are two possible outcomes:

- the eradication of the FX mode
- or FX or AUV Express Operators resorting to charging fees illegally, as is the current status quo

Either way, the imposition of any new fare will have to be examined very carefully.

4. Conclusions

4.1 Sustainability of "FX"

Based on the financial analysis of the FX operations based on available information regarding routes between Manila City and Quezon City, it was found that changing the fare structure can have a significant impact on the sustainability of the operation. It was shown that the with less than 5 passengers, the operators will be placed in a very serious financial situation, possibly resulting in going out of business. This will negatively affect the riding public who have come to depend on the FX as an alternative public transport.

4.2 Role of the FX

The FX emerged about ten years ago to meet a particular transport demand of a residential subdivision. Today, the FX has become a significant part of the public transport system of the metropolis. It is considered to be increasingly popular among those in the higher income

groups using private automobiles affected by the traffic restraint scheme, known as the Unified Vehicular Volume Reduction Program, wherein vehicles with certain license plate number endings are prohibited from being used on main thoroughfares on certain days of the week. The FX has clearly established its role in the hierarchical system of public transport that exists in Metro Manila, as shown in Figure 4, with the FX represented as Filcab.

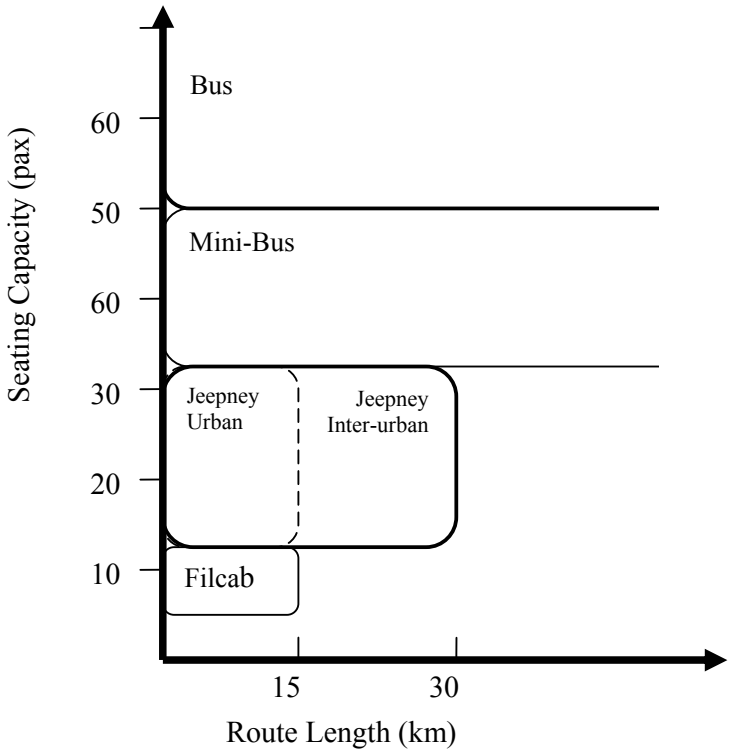

Figure 4. Hierarchy of Philippine Road Public Transport

It may be noted, however, that the FX does not fit any of the established public transport classifications. It operates without a fixed route much like a taxi, vehicle-for-hire or a tourist vehicle. It charges and collects fare from each passenger in violation of its operating conditions. If operating as Mega Taxi, it should charge total fare based on a duly calibrated taxi meter. If operating as Vehicle for Hire, fare is on per engagement plus fee per unit time. If operating as a tourist vehicle, fare maybe on a per passenger basis but the routes are strictly regulated with accreditation by the Philippine Tourism Authority being imposed as an additional requirement. Most of the FX units that are operating for hire are franchised as Mega Taxis and are therefore violating their approved fare structure.

It is recommended that the FX be retained as a public transport mode, albeit with a modification in its legal classification It provides a seating capacity between that of a jeepney, with approved seating capacities between 12 to 32, excluding the driver, and that of a tricycle with a seating capacity of not more than four (Regulation of the latter has been devolved to local government units). The FX, together with the other public transport modes, forms a wide band of hierarchy of public transport system in Metro Manila.

The proposed move by the LTFRB to introduce another classification for the FX, namely AUV Express, is unnecessary. A suitable standard classification already exists. This is the Filcab, which may operated as ordinary or air-conditioned public transport service, with a fixed route or variable routes within a specified area. A fare per passenger based on distance

or zonal may be authorized by LTFRB. Similar operating characteristics are also open to jeepneys so higher quality of service may be provided by various sizes of vehicles. Care should be exercised in the selection of Filcab routes to ensure that they do not operate on routes more suitable for higher occupancy vehicles such as along major arterial roads and distributor roads, the latter being more suitable for jeepneys, as well as buses.

ACKNOWLEDGMENTS

The authors would like to thank Mr. Cocson, Mr. Contrano, Ms. Gesulgon and Ms. Madamba for allowing the use of the data that they collected in the conduct of their undergraduate research.

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