

FIGURE 4.40
DIFFERENCE BETWEEN FULL AND DIRECT COSTS – JEEPNEY

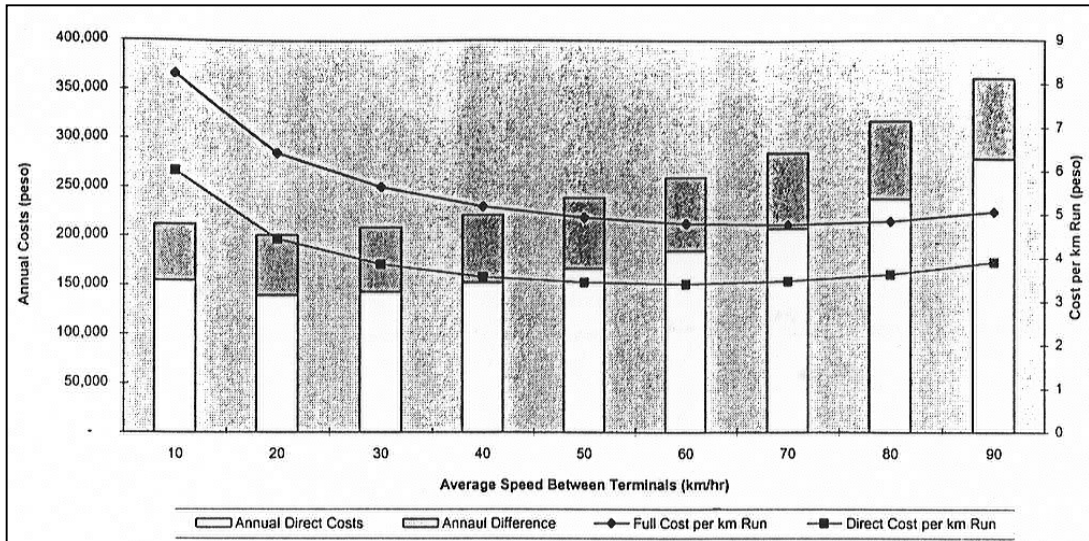


FIGURE 4.41
DIFFERENCE BETWEEN FULL AND DIRECT COSTS – NEW BUS

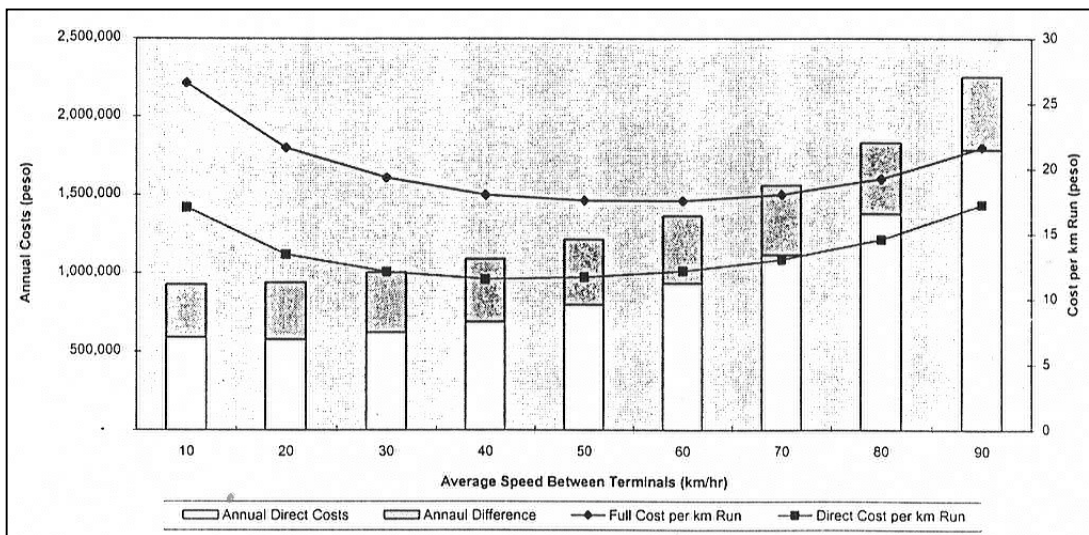


FIGURE 4.42
DIFFERENCE BETWEEN FULL AND DIRECT COSTS – RECONDITIONED BUS

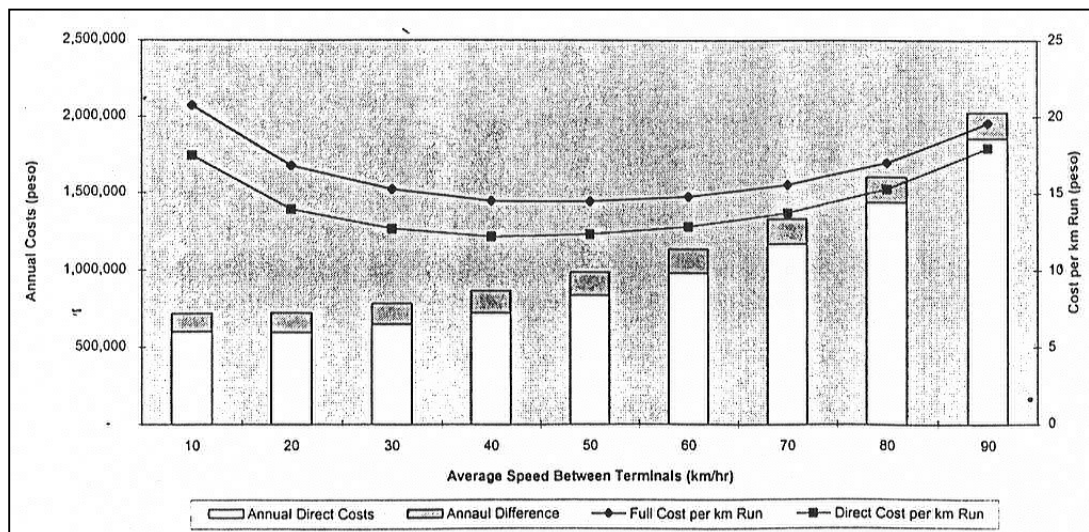


FIGURE 4.43
ANNUAL DIRECT COSTS AT LOW SPEEDS – JEEPNEY

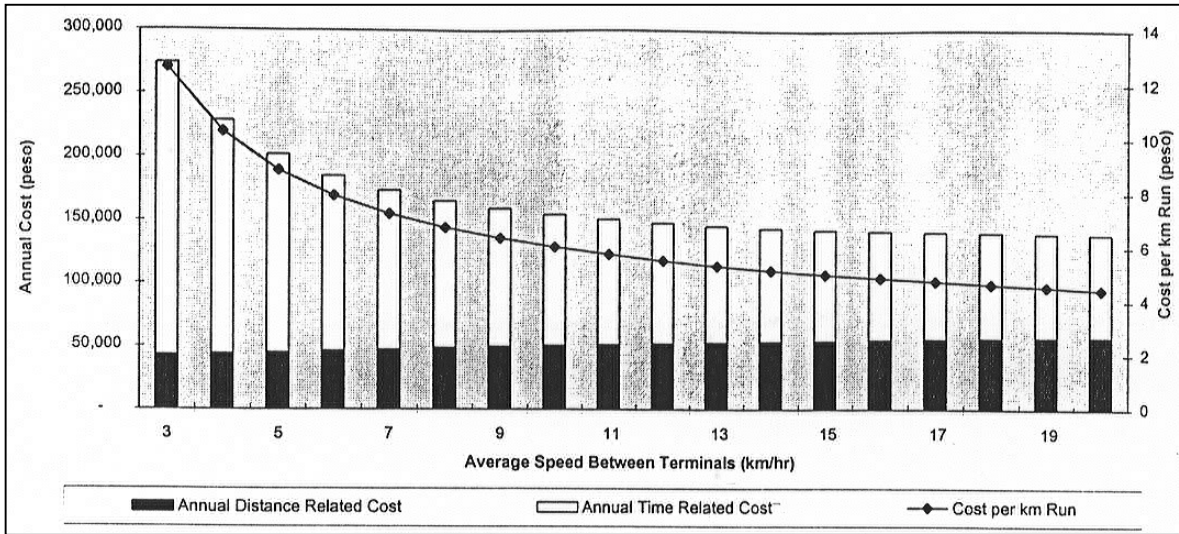


FIGURE 4.44
ANNUAL DIRECT COSTS AT LOW SPEEDS – NEW BUS

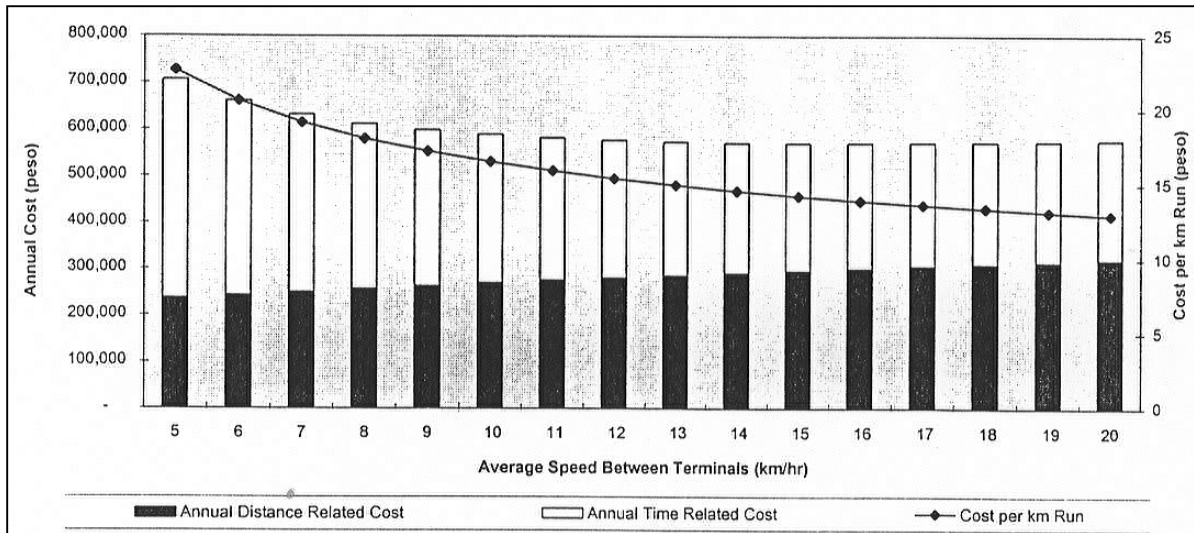


FIGURE 4.45
ANNUAL DIRECT COSTS AT LOW SPEEDS – RECONDITIONED BUS

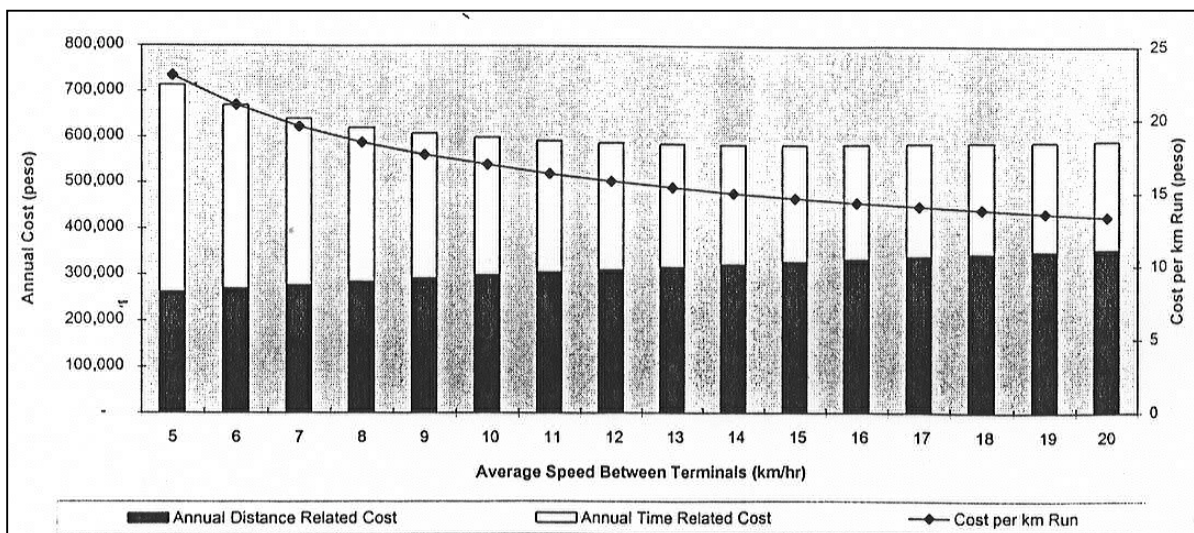


FIGURE 4.46
DIFFERENCE BETWEEN FULL AND DIRECT COSTS AT LOW SPEEDS – JEEPNEY

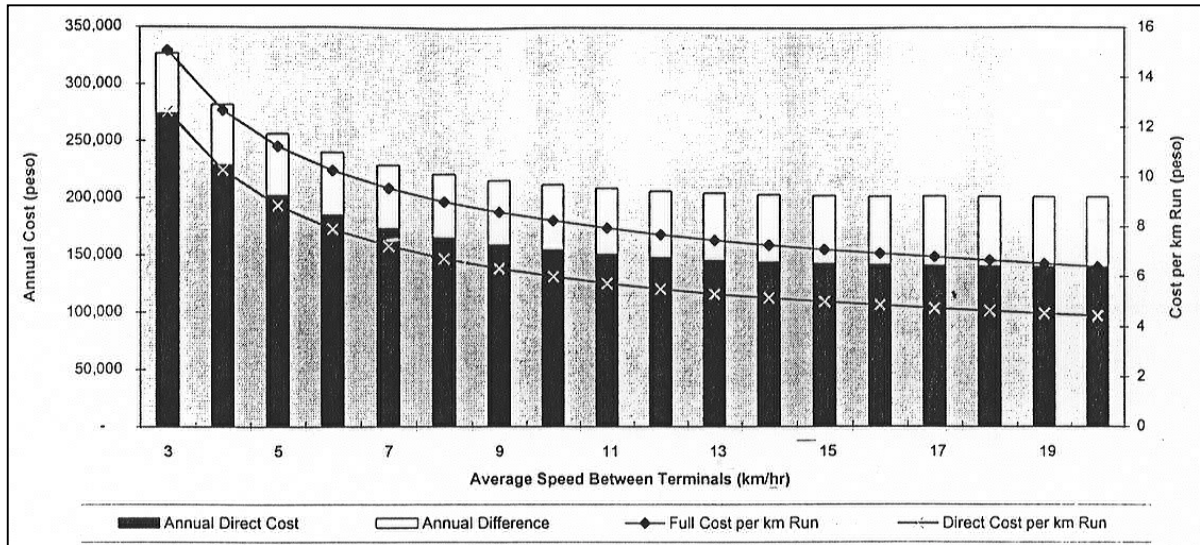


FIGURE 4.47
DIFFERENCE BETWEEN FULL AND DIRECT COSTS AT LOW SPEEDS – NEW BUS

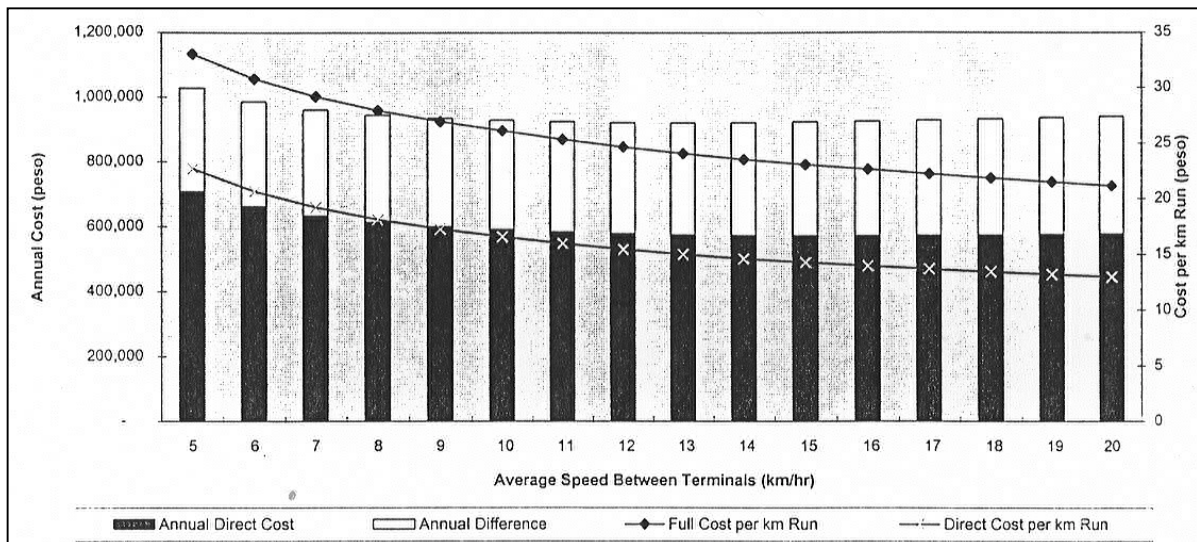
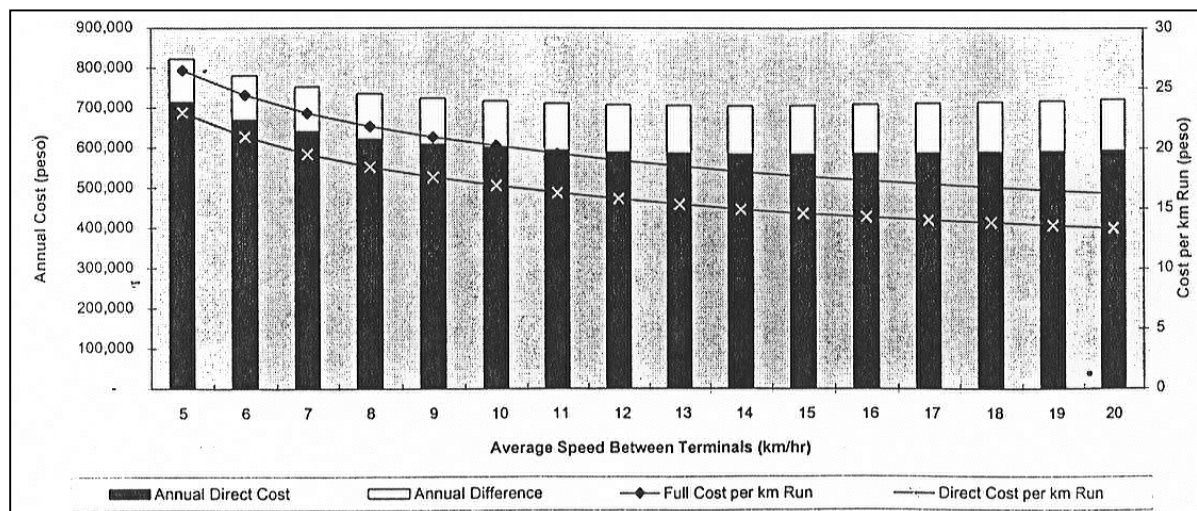


FIGURE 4.48
DIFFERENCE BETWEEN FULL AND DIRECT COSTS AT LOW SPEEDS – RECONDITIONED BUS



4.5 Threats and Opportunities

Operating conditions for buses and jeepneys are changing more rapidly in Manila at the end of the 20th Century than they have at any time in the last 20-30 years. Change will bring some opportunities for both vehicle types, but in the main threaten their historic domination of transportation in the city. The changes result from the introduction of both new infrastructure and of new vehicle types.

4.5.1 Infrastructure

Two tolled expressways are currently under construction in the south of the Study Area. Others are planned or proposed throughout the region, some of which will penetrate the urban core inside EDSA (extension of Skyway to C2 and NLE, Pasig Expressway, etc.).

Two mass transit railways under construction in Metro Manila, the capacity of the existing Line 1 is being increased, unsolicited bid for a fourth mass transit line is being evaluated, and other lines are at the planning stage (Northrail) or proposed (southern extension of Line 1).

At present these projects are seen only as a threat to traditional bus and jeepney operations in terms of the following:

- During their construction period, they are reducing available road space in the corridors they will eventually serve, leading to increased traffic congestion, lower speeds (i.e., as shown in Section 4.2, higher costs), and a probable loss of revenues as some passengers abandoned the slower modes for faster and more comfortable modes (Tamaraw, Taxi, private car); and
- Once open, they will encourage mode transfer away from the traditional road-based modes, particularly on the new mass transit corridors.

There are, however, a number of opportunities for buses and jeepneys to move into new markets opened up by the new infrastructure, particularly the following:

- Express bus services using the new expressways for part of their journey—these would be premium routes, and should command a higher fare per passenger km than ordinary services, even if operated with non-AC buses; and
- New jeepney (and possibly bus) feeder services to Mass Transit stations—it is likely that the person trips on these services would be fairly short, and would thus also pay a higher rate per passenger km than the LTFRB marginal tariff.

MRT 3 will serve the busier sections of EDSA, the biggest public transport corridor in the world. At present, this is served by an estimated 12-16,000 bus trips a day carrying flows of nearly 400,000 passengers a day each way on the busier sections.

Any transfer of passenger trips to mass transit will be at the expense of bus patronage, but it is uncertain what the impact will be. No citywide four-stage transport model (such as that developed for MMUTIS) was available to forecast trips on the new line.

Patronage of up to 650,000 trips a day has been forecast. While the opening of the line will undoubtedly generate new passenger trips in the EDSA corridor, this level of ridership would involve the transfer of at least half the bus traffic on EDSA to the new mode. Conversely, MMBOA and others argue that very few of the trips made by bus along the mass transit corridor do not start or finish beyond the initial stage of MRT3—if the passenger needs to use a bus that will continue to run under the mass transit line for part of their journey, they will continue to use it for the whole journey, and the bus will not lose much of its existing customer base to rail.

The principles underlying the mode choice decision in transport models hold that trips will switch to mass transit for part of the journey (even though the bus runs parallel) if it reduces the generalized cost of their travel. Transfer will, therefore, depend on the relative fare, time, comfort and convenience of using one mode or two to make the trip. MRT3 will be airconditioned and is expected to be faster than the bus, possibly much faster if traffic conditions on EDSA remain like the present. The fare will probably be about P1.50/km, i.e., 50% above typical current AC bus fares.

This suggests that the greatest threat is to AC buses on city operation.

- Passengers on ordinary bus already have the opportunity of taking a more comfortable mode for a higher price, and choose not to do so (although the lower journey time on MRT3 may encourage some to switch).
- Passengers on provincial bus are expected to stay with bus throughout, but if they have a choice of terminal, they may switch to one at the appropriate end of EDSA (Tramo/Baclaran for Southern provinces, Cubao for Central and Northern), effectively switching to mass transit for the part of the trip along EDSA.

While MRT3 may therefore take half the current bus traffic along EDSA, it is unlikely that the number of buses on EDSA will fall on proportion. The main current cause of delay to traffic (and particularly to buses) on EDSA is other buses—there are too many for orderly behavior at the main stopping places. Any reduction in the number of buses on EDSA in response to loss of traffic to MRT3 will bring a disproportionate improvement in operating conditions for those remaining in service. Speed will rise, cost/km will fall, and operation will be profitable at a lower load factor, thus a 50% drop in bus passengers may only lead to a 30-40% drop in the number of buses.

There is almost no jeepney operation along EDSA to be threatened directly, but if there are reasonable facilities for interchange between Line 1 and MRT3, some trips may switch to using two (fast and airconditioned) mass transits instead of one slow jeepney open to exhaust fumes etc.

Overall, however, MRT3 probably presents an opportunity to the jeepney, providing feeder services to station as they already do on Line 1. Most of these trips will be quite short, the catchment extending little more than 2-3 km either side of the circumferential line⁹.

⁹ The existing bus routes at the north and south ends of the line would take the longer feeder trips.

For Line 2, this situation is reversed. It will run in a corridor currently almost entirely served by jeepney, but by focusing demand for public transport trips between Manila/Cubao and Marikina, Antipolo, etc. On the Santolan terminal, it may provide long-distance feeder route opportunities for bus, both AC and ordinary.

The Northrail and southern extension to Line 1 would threaten both types of operation. Jeepneys carry local traffic in both corridors, but there are also substantial bus operations—provincial in the Northrail corridor north of Valenzuela, and city/short-distance provincial along the Coastal Road to Zapote and Cavite.

The expressways will speed up road travel for some journeys in their corridors, making car ownership (and use) more attractive. They can, therefore, be seen as a threat to bus and jeepney operations, although income distribution and limited ability to afford a car will put an upper bound on the loss of traffic.

They also offer an opportunity, largely for bus operators, to introduce new express services running non-stop between entry and exit points. There may be a case for higher fares per km for these services, even if operated by ordinary bus, although the impact of the higher average speed on bus cost per km may mean that these are not needed for viable operation with a new vehicle.

4.5.2 New Vehicle Types

As noted in Section 4.1, the jeepney is limited in offering value-added to passengers, as the basic design of these vehicles makes them both uncomfortable to ride in (with seating parallel to the direction of travel) and almost impossible to air condition.

The second generation of Tamaraw van, the FX, which has entered the Manila transport market (initially in unfranchised uses), suffers from neither of these disadvantages (although passenger boarding and alighting is time-consuming compared to other vehicle types). Operationally, FXs are effectively AC jeepneys and, as their operations become increasingly legalized and franchised, are likely to eat into the traditional jeepney market in much the same way that AC bus has taken over from ordinary bus.

It is, therefore, likely that it will replace traditional, non-AC, operations in the same way. As the life of existing jeepneys expires, they will be replaced with FXs, often with the same owners and drivers. While they have a lower capacity per vehicle trip than the current generation of 16-20 seater jeepneys, the higher fare they command (between AC bus and taxi) makes them financially attractive to operators.

Most Tamaraw operation is currently outside EDSA, although it is likely that these vehicles will move into the inner area if allowed to do so. A further possible threat to jeepneys is a return of buses to some radial roads abandoned several years ago, using AC buses surplus to requirements on EDSA once MRT3 opens. Such services already run on España/Quezon Boulevard and Taft/Roxas, corridors never fully abandoned by the bus.

There are indications that, at present, such services are not sufficiently attractive to operators. However, the value-added by an AC service would be expected to attract

customers, while the higher fare AC services command would make operation financially viable at slow speeds and relatively low load factors. Once super-profits are no longer available along EDSA, some operators may be tempted to try these corridors, using older reconditioned vehicles to minimize the financial risk.

4.6 Measures to Improve Financial Viability

Initial MMUTIS forecasts indicate that, even if all the proposed mass transits are built and fully utilized, there will still be a greater demand for bus and jeepney services in 2020 than there is today. This will be due partly to continuing population growth in both Metro Manila and the surrounding areas, and partly to increasing real incomes (at present the poorest sections of Manila's population cannot afford regular public transport use, even at low LTFRB tariffs).

The threats described in Section 5 do not, therefore, mean that the number of vehicles in use, or the number of people employed in the industry, are going to decline in the foreseeable future. However, this overall increase in activity will be a combination of attraction in some markets and corridors coupled with growth, often explosive, in other areas.

4.6.1 Regulation

The principle measures necessary in order to ensure the continued (and improved) financial viability of bus and jeepney services are, therefore, regulatory. The current pattern of public transport in Manila has risen in part due to past regulatory failures, for example:

- Jeepney operations have remained viable despite falling real fares by concentrating on short routes and corridors in which (even if the routes are longer) passenger trips are short, maximizing the benefits to the operator (and dis-benefits to the passenger) of the exponentially tapered tariff structure;
- In many instances, these voluntary short trips are a product of the fossilized jeepney route structure, which has not been substantially modified since Line 1 opened in the mid 1980s. Trip desire lines change over time and there are no direct routes to serve many modern trips which are thus made as two (or more) trips on existing routes; and
- Tamaraw services initially started (illegally) to serve areas where a freeze on authorizing new jeepney routes meant that there was no public transport in newly developed urban areas.

If the business opportunities to public transport operators identified in Section 5 are to be grasped, there has to be greater freedom for operators and vehicles to move to new routes and service types than would appear to be the case at present. Many of the services that may become possible (either because of shifts in passenger demand or new road infrastructure) in the near future—which could initially be run by vehicles driven off mass transit corridors—will not happen if it is technically illegal for the revised routes to operate.

While the route structure may need revising to better serve current trip patterns, this should not be a discrete change but needs to be a continuous, dynamic, exercise. This is particularly true for areas in which there will be major changes in infrastructure or level of urbanization in future.

In this respect, it may no longer be appropriate for bus, jeepney, Tamaraw, etc. routes in Metro Manila to be determined by a body with national responsibilities, i.e., the LTFRB. Manila is one of a very few large cities in the world (if not the only one) in which public transport in the urban area is not regulated by a body with particular responsibility for the city, usually a branch of the city administration.

This may be a reason why Manila's public transport is still regulated by a national government office. Until recently, Metro Manila was a loose collection of 17 individual cities and municipalities. MMDA is still relatively new and limited in its power and capabilities. Nevertheless, MMDA would seem to be the appropriate body to administer Metro Manila's public transport if the regulator is to be more locally accountable. This should involve not just a transfer of existing duties and personnel to MMDA (which would otherwise lack the technical capability for the task), but also the change to the more dynamic route structure described above that would seem to be needed in the future as mass transits and expressways are added to the transport infrastructure.

4.6.2 Tariffs

Economic arguments were advanced in the 1960s and 1970s¹⁰ that an economically equitable bus fare would be heavily biased towards boarding and alighting charges, as it is these acts that caused the greatest social costs, both to the operator, by requiring the bus to brake and then re-accelerate, and to all the other passengers, by delaying their journey.¹¹ A shortcoming of the system was that, while it might produce a social optimum, it did not guarantee financial viability for bus operations.

Manila public transport tariffs have borne a close resemblance to this theoretical system, particularly for the LRT and the average jeepney trip, being almost all boarding charge and no distance-related charge. The ensuing lack of financial viability for some services (most, probably, immediately before the December 1996 revisions) may be attributable as much to the tariff structure as to the absolute level of the fares. As noted in Section 3, longer trips involve such a low fare per km that it is difficult to break even in congested urban conditions.

The October 1997 tariff revision was unique in recent history in that it increased the boarding charge for ordinary bus and jeepney fares, but made no change to the marginal rate. Overall, it added P0.50 to the fare no matter how long the passenger trip. This constituted a 25% fare increase for most jeepney passengers and operators (from P2.00 to P2.50 for a typical trip of less than 4km), but only an 8% increase for ordinary bus (from P6.00 to P6.50 for the average 12km trip).

¹⁰ H. Mohring, R. Turvey and others.

¹¹ The logical conclusion of this argument is that the first passenger on pays no boarding charge as the bus is already stationary and he is delaying no one but himself. Similarly, the last passenger off pays no alighting charge.

The last two revisions have, however, removed a long-standing anomaly in the tariff structure which meant that the fare/km was at a minimum for trips of 4km as the boarding charge was less than 4 times the marginal rate. Figure 4.49 illustrates this, comparing the ordinary bus fare for different trip lengths with that for a 10km trip for the tariff levels of October 1997 and November 1988 (when the anomaly was at its greatest).

The size of the anomaly in 1988-1990 is emphasized by Figure 4.50, which compares the fare per km for trips of 4 and 10km by ordinary bus and jeepney over the last 13 years. It can be seen that, for bus, at one stage the rate at 4km was only 83% of the rate at 10km. As mentioned, this has now been reversed, the rate at 4km being nearly 20% higher than the rate at 10km for jeepney.

The introduction of electronic ticketing on the mass transit lines means that Line 1 will move to the distance-based fare. While this has not yet been determined, suggestion for the tariff have been of a boarding charge plus a marginal fee per station (e.g., P4+1 has been suggested for the existing non-AC Line 1). Such a system would have a taper, i.e., shorter trips would cost more per km than long trips, but this would be nowhere near as severe as the taper in bus and jeepney fares as the marginal charge would be imposed for all trips.

Such a system might also be suitable for ordinary bus and jeepney. However, any change would result in gainers and losers among both passengers and operators. As noted, with longer passenger trip lengths both ordinary bus (especially with a new vehicle) and jeepney operations are only marginally viable (if at all) at realistically achievable load factors.

Arguably, therefore, the fare for these trips needs to rise if older and less environment-friendly vehicles are to be removed from the roads. Conversely, any increase needs to be kept to a minimum in order to make public transport affordable by as many people as possible. Any increase should be by increasing the marginal rate, so that longer trips generated more revenue for the operators. It is notable that both forms of public transport found to be clearly financially viable in the analysis of Section 4.1 were achieving average fares of more than P1.00 per passenger km, well in excess of the current marginal rates.

This could involve a two (or more) tier marginal rate, e.g., P0.60 up to 10km, and P0.55 beyond that. At shorter distances, the increase could be off-set by a reduction in the boarding charge, with the marginal rate cutting in at a shorter distance. However, to avoid a large overall increase in fares, the reduction in the boarding charge would need to be significant, possibly resulting in lower fares for some shorter distances, which could adversely affect jeepney operators on short routes.

Options include widely differing tariff structures for bus and jeepney (which would not help long distance jeepney routes) and a separate tariff structure (and thus regulatory definition) for jeepneys on short routes—which is complex to administer and confusing to the traveling public¹².

¹² Although the bus system in Hongkong seems to function well – with public acceptance and comprehension – with at least five different types of service and a different, regulated, fare for each route, usually 100% boarding charge.

An opportunity to introduce a less tapered tariff structure would arise if the route structure is revised, with a number of new mid-length jeepney routes introduced. Fares for shorter distances could be left reasonably high, as many passengers would now be paying one medium distance fare instead of two short ones.

Tariffs on AC services are not considered to need as much regulation as those for ordinary services. Provided there is non-AC alternative, the issue of protecting the interests of the poor does not arise, AC passengers are choosing to pay a higher price for a higher value product.

The increasing trends to value added services may, however, result in some areas not having an alternative. There would not seem to currently be any regulatory mechanism to force operators to run non-AC services when there is an AC alternative. If fares do not rise to a level at which operation is financially viable, non-AC services will disappear from the roads.

4.6.3 Operations

There are a number of ways in which the operators themselves can improve the financial viability of their services, both by attracting more customers at the margin, and by reducing their own costs per km run.

Both bus and jeepney systems could be made more user friendly—and thus more attractive to users, increasing demand, load factors and profitability—with improved (and standardized) route and destination identification markings on the vehicles.

Travelers could be encouraged to use public transport instead of taxi when going into areas they do not normally visit if a system of numbers were assigned to the routes. A first move in this direction is the numbering and color coding of city operation services on EDSA to show which stops they (are allowed to) stop at. Once route numbers were established, route maps could be more easily be issued (either by the operators association, e.g. in Hongkong, or by the regulatory body, as in Europe), or routes could be incorporated in commercially published maps of the town (e.g., Bangkok, Hongkong, and most major cities).

A more uniform system for the signs hung on the windscreen to advertise the ultimate destination and key places passed along the route will also improve both the economic and financial viability of the system by avoiding customer confusion (social benefit) and cutting operator costs by reducing dwell time (and non-remunerative stops) to answer intending passengers queries on whether the vehicle is going to/via xxx.

Such changes would appear to be in the operator's interest. Without them, they are losing uninformed customers to other modes and restricting their customers to a dwindling number of people who know where the bus goes, and would thus not need to be imposed by a regulatory body. However, as they have not yet spontaneously arisen, it may be necessary for the regulatory body, whether LTFRB or an office of MMDA, to lead the operators in the direction.

Demand on some jeepney routes is probably suppressed by the practice of not leaving the terminal until the vehicle is full. This behavior is commonplace in small-vehicle

public transport operations throughout the developing world. However, it is probably not in the operators' interest (excessive standing time at terminals) and certainly not in the passengers' interest, to increase waiting time at the terminal and create a "dead-zone" along the route for at least a kilometer after the terminal before alighting passengers will create room on the vehicle for any new passengers to join. A certain number of customers is, therefore, lost to public transport (people walking instead). It is on short jeepney routes where this practice is most prevalent, drivers reasoning that they need to maximize revenue on every trip by ensuring a full load. However, on such routes the driver will get the same fare per passenger no matter where they board along the route.

It would also seem to be in the operators' (and their drivers') long-term interest to improve discipline on the road as well as the terminals. Manila's public transport operations have been described as "an unholy alliance between undisciplined drivers and lazy customers." Stopping places are generally ill-defined, buses and jeepneys tending to stop whenever passengers wish to aboard or alight, and vehicles hang back at stopping places waiting to pick up additional passengers.

This generally involves vehicles spending more time stationary than is commercially necessary, leading to low average speeds for public transport and the blocking of other roads users (including other public transport vehicles). Average speed is then increased by racing, often with reckless driving, to the next place at which passengers want to board or alight.

At present, possibly because buses and (in particular) jeepneys carry so much of Manila's transport demand and passengers may contribute as much to the sub-optimal behavior as the drivers, such practices seem to be tolerated by the public. This situation may not last for much longer, however. Mode transfer to mass transit and private car will rapidly erode the bus and jeepney's share of transportation to the critical 50% level. Furthermore, the increasing number of car owners are wealthier, and politically better connected than bus passengers.

However, it appears to be sensible for both passengers and operators to "put their house in order" now, well before any change is forced on them by a shift in public opinion:

- Undisciplined behavior is not in the operators' interests. As noted in Section 4.1, it leads to low speed and higher operating cost per km, as more vehicles are needed to perform the same transportation task.
- Undisciplined behavior is not (collectively) in the customers' interests. In addition to the higher cash fares than might otherwise be needed to pay operators to run unnecessary vehicles, it also results in slower journeys for (other) passengers, further increasing the generalized cost of bus or jeepney travel.

Such change is not likely to happen spontaneously. This is partly an educational issue—passengers, drivers and operators seem unaware to the unnecessary costs they are imposing on themselves and others. There is, therefore, a role for the regulatory body or other local authority in helping to bring these changes about.

It is also partly a function of the size and density of the market for bus and jeepney services in Metro Manila. Congestion at and on the approaches the recognized stopping places means that passengers will gather in other locations (even dangerous places such as the driving strip between the main carriageway and the slip road at the entrance to flyovers and underpasses on EDSA), encouraging drivers to stop there to pick them up.

While this behavior involves tacit collusion between drivers and passengers, if buses only observed particular stopping places passengers, would soon stop gathering in other places. Such driver-led improvement in discipline would be more problematic for jeepneys, where the open rear entrance to the vehicle means that passengers would still be able to board or alight whenever they choose.

However, any operator who decides that it would be better to run faster and ignore passengers who want to be picked up at a location only meters away from another queue (as the level of demand is high enough for them to achieve an adequate load factor for financial viability without catering to “lazy” people), would find it difficult to put this plan into operation on any of the busier corridors as the vehicle would inevitably be blocked at some stops by other vehicles who were not “optimizing” their behavior.

The density of traffic, exceeding 400 vehicles an hour on some roads, also makes the regulatory imposition of greater discipline difficult to enforce. Clearer definition of stopping places on main roads and clarification of the relevant traffic regulations, coupled with more even-handed and rigorous enforcement (more training for enforcers?) would be needed, but at present traffic levels even this would be difficult (if not impossible) at many key locations.

A window of opportunity will arise on some corridors with the opening of more mass transit lines. This will not only reduce the number of vehicles moving along the corridor to a more manageable level¹³, but will also lead to a re-definition of the commercial importance to public transport operators of stopping places as mass transit stations become a focus for interchange. However, if lessons are to be learned from Line 1, more attention will need to be given to creating space at street level for orderly interchange between bus, jeepney and mass transit. These issues are being considered in more detail by the parallel MMURTRIP study.

With greater driver discipline encouraging greater passenger discipline, both customer and operator should benefit from faster travel by bus or jeepney. Faster travel will benefit passengers both directly, and also through lower operating cost per km for public transport operators. These lower costs can benefit the industry in a number of ways, as follows:

- Increased profitability for operators while retaining the present high frequencies (short waiting time for passengers);
- Improved ability to fund newer, more environment-friendly vehicles for the public transport fleet (benefits to all roads users); and
- Lower fares than would otherwise be needed to keep entrepreneurial interest in the industry high.

¹³ As noted, it may actually increase the numbers approaching or crossing the corridor at station locations.

5. PROBLEMS AND PROSPECTS

5.1. Short and Long Term Problems

Reviewing the last 25 years of public transport in Metro Manila, one would discern a periodic bout with quantity or supply of rolling stocks—of railcars, bus, and taxis. The only constant is the jeepney; the general opinion seems to be that there exist too many of them, and yet their population continues to grow.

The PNR commuter service experienced momentary improvements in 1981 and 1990. On the other hand, the LRT 1 suffered reductions in train availability in 1989 and 1995. The peaks and valleys of the rail mode is due to its characteristic negative financial streams and the corollary absence of a government policy for subsidizing the system coupled with reluctance to adjust fares. Hence, both PNR and LRTA substituted annual maintenance costs with capital outlays for rehabilitation every decade years or so. This situation is likely to repeat itself on a larger scale in the future, unless a radical re-structuring of the rail sector is made.

The fleet of bus units dwindled in 1975, 1981, and 1988. These were primarily caused by regulatory failure to adjust fares on time. Although there were more frequent revisions in the last seven years, the fact remains that the current tariff is only 2/3 of their value after the January 1996 adjustment. As can be concluded from the results of the Vehicle Operating Cost Model (VOCM), traffic congestion is pushing upward the operating costs per kilometer run of buses and jeepneys. Only reconditioned buses (with their lower break-even point) and airconditioned buses (with their higher marginal revenue) appear to be viable.

Transport regulatory authorities have always focused on fares. Modernization of the transport fleet has been evaded, except for two instances in the late 1970s and early 1980s, when upgraded specifications for new buses were imposed. The jeepney design, on the other hand, has remained virtually unchanged in the last 40 years. With worsening urban pollution, and the growing concern for sustainability, the next 20 years would call for low emission and energy-efficient vehicles than what currently prevail in Metro Manila.

5.2 Prospect of Diminishing Market Share

Public transport still accounts for a large (70%) share of the total daily person trips in Metro Manila. However, this is likely to go down in the future. Car ownership is increasing rapidly while the level of service of public transport is declining. Expansion of the road network will continue to fall behind due to budget constraints, land acquisition difficulties, and relocation obstacles. The challenge is not only to maintain, but also improve the attraction of public transit as a mode of urban commuting. The central element to maintaining the edge, and thus avoid future reduction of market share, is to achieve better integration of service across rail, bus and jeepney through seamless transfers.

6. OPTIONS AND RECOMMENDATIONS

6.1 Options

Several proposals have been brought forward to improve the public transport system in Metro Manila. Among these are the following:

- Create a Metro transport authority that will integrate rail, bus, and jeepney ownerships and operation under one agency;
- Consolidate bus companies into fewer but larger operators or bus consortia;
- Phase out the jeepneys;
- Phase out older vehicles, e.g., taxis more than 5 years old, buses more than 10, etc.;
- Introduce more bus/jeepney priority lanes;
- Prohibit the importation of second-hand buses and second-hand engines;
- Segregate bus stops along EDSA;
- Construct off-street transport terminals or interchange areas;
- Ban the entry of additional operators in congested roads or routes; and
- Expand the LRT network.

These proposals could be categorized according to their objectives, namely: (a) those that aim to remedy the traffic behavior of buses and jeepneys; (b) those that aim at vehicle fleet modernization; (c) those that seek integration of services; and (d) those that aim to increase the supply or capacity of public transit. While many can be supported, they barely scratch the surface.

6.2 Rail Transit

There is now broader public support to expand the rail transit network, unlike the skepticism that greeted LRT 1 in 1981. Expansion of the rail network is a central element of the transport master plan to year 2020. However, the lack of funds limits the size of the network. Tapping the private sector may provide partial relief, but the use of the BOT scheme has inherent dangers also. Because of the marginal financial viability of rail transit, private proponents have tended to transfer project risks to the government. Hence, expansion of the rail network leads to larger demand for government subsidy.

The recommendations of the Financial Restructuring Study of LRTA should be adopted and implemented, particularly the following:

- Privatization of operations and maintenance, through concession contracts, for each of the 3 LRT lines;
- Limitation of government risk exposure to explicit cost, such as the cost of track infrastructure, for BOT projects;
- Open and transparent public tender in the selection of private developers or concessionaires; and
- Private proponents should be guided as to the specific lines or corridors to be developed, following the MMUTIS recommended network, as well as on the technical standards to be adopted.

6.3 Road-Based Public Transit

It is difficult to justify any attempt at consolidating all public transport services under one authority. The basic strength of Manila's public transport is its strong private participation. The current structure is as efficient as it could be under the circumstances and leads to very little demand on public funds. Studies have revealed no obvious economies of scale in bus, jeepney and taxi operations. What is desired is 'order' or integration of services, and this objective can be achieved through other means like common ticketing and provision of convenient and comfortable passenger transfer facilities.

One practical intervention is to phase in fuel-efficient and low-emission vehicles into the public transport fleet. This will hit two birds with one stone: reducing air pollution caused by diesel particulates, and upgrading the quality of service. Jeepneys will be affected more adversely than buses, but the increasing popularity of airconditioned vans (like the Tamaraw FX) indicates shifting preferences in the market. The mechanism is through a long-term program where renewal of franchise shall be predicated on meeting fuel consumption and emission standards, aside from imposing other safety standards on body configuration. The program can be strengthened through subsidized financing and higher fares.

The inevitable adjustment in operations of buses, primarily as a result of the expected commercial operations of LRT 2 and LRT 3, should be planned ahead of time and managed pro-actively. This may involve route rationalization measures.

6.4 Common Ticketing

In most metropolitan areas in developed countries, there exists a common ticketing system that permits commuters to use a single ticket and avoids cost penalties when transferring from one mode to another. This is a natural feature when there is a unified municipal or metropolitan transit authority. However, common ticketing is not inconsistent with multiple operators. The city of Munich, for example, has several transit operators, but tickets sold in one are usable in the others.

It is recommended that a common ticketing system be introduced in Metro Manila, starting with LRT 1, LRT 2, and LRT 3. A distance-related ticketing fare system using stored value cards is expected to go on-stream in mid-1998 for LRT 1. It is

reported that LRT 3 would also install its own independent ticketing system. Although under construction by a private consortium on a Build-Transfer-Lease-Maintain basis, LRT 3 will be operated by the government. LRT 2 will naturally adopt the LRT 1 system, since both are under LRTA. With the progressive state of computer and communications technologies in the Philippines, the technical impediments for interconnecting the two ticketing systems can easily be surmounted.

To promote wider use of a common ticketing system, especially its adoption by bus companies, it is recommended that a private entity be tapped to handle the integration, operate the network, and allocate revenues. This entity will be similar in structure to the three existing ATM networks (BancNet, Megalink, and Expressnet) that interconnect independent banks, and to the check clearing house which process independently-issued bank checks.

6.5 Strategic PT Terminals or Mode Interchange Areas

For similar reasons that a common ticketing system has not emerged, passenger interchange facilities have been rare and uncommon. The multiplicity of small bus and jeepney operators militates against investment in a shared facility. It is not for lack of trying, either. Government has developed plans for several transport terminals since 1984, but none has materialized to date. A private group, Metro South Intermodal Transport Terminal Corporation, has revived an old proposal and is now pushing for the greater use (by both provincial and intra-urban buses) of an interchange at the FTI Complex. Unfortunately, the latter is hobbled by poor location—which is off the traffic mainstream. The few terminals that approximate the need are in commercial centers, such as at the EDSA Central in Mandaluyong, Araneta Center in Cubao, and the Ayala Center in Makati.

It is recommended that MMDA invest in one or two strategic inter-modal facilities, to pave the way for public-private partnership in the development of such a vital transport infrastructure. Without government support, such a project is unlikely to happen. Government contribution can be in the form of land and partial capital grants, aside from tax incentives. The strategic sites are those at the junctions of LRT lines, and the transfer points between inter-and intra-urban trips at major arterials. Redevelopment of the Old Bilibid Compound along Recto Avenue is of the first category, since the impetus for its development is the confluence of LRT 1, LRT 2 and LRT 4. A project of the Public Estte Authority, the Recto inter-modal station may well be realized; its sponsor appears to have already arranged a financing package. Another strategic terminal is the prospective junction of LRT 3 Extension and the Manila-Clark Rapid Railway in Kalookan City. To boost usage of the Pasig River ferry, an interchange station is needed at the Guadalupe junction to serve bus, jeepney and LRT 3 riders.