

Haider and Badami

BALANCING EFFICIENCY AND EQUITY IN PUBLIC TRANSIT IN PAKISTAN

Murtaza Haider, Ph.D.
Assistant Professor
School of Urban Planning
McGill University
815 Sherbrooke Street West, Suite 403
Montreal, QC H3A 2K6 Canada
Tel: 514.398.4079, email: murtaza.haider@mcgill.ca

Madhav Badami, Ph.D.
Assistant Professor
School of Urban Planning
McGill University
815 Sherbrooke Street West, Suite 400
Montreal, QC H3A 2K6 Canada
Tel: 514.398.3183, email: madhav.badami @mcgill.ca

6. BALANCING EFFICIENCY AND EQUITY IN PUBLIC TRANSIT IN PAKISTAN

Murtaza Haider and Madhav Badami

Public transit in developing countries plays a critical role in sustaining and improving the welfare of the urban poor by providing mobility to millions. Despite the increasing rate of motorization, the urban poor in the developing world do not have the means to afford private motor vehicles. Therefore, the urban poor rely on public transit for trips that require motorised transport. Their access to jobs, healthcare, and other services hinges upon their access to reliable, affordable, and efficient public transit.

The past few decades have witnessed a continuous divestment in urban public transit by many governments in the developing world. This is true for Pakistan as well. The private sector has stepped in to provide public transit service once the government funded mass transit disappeared from the streets. However, privately owned and operated public transit in developing countries has left much to be desired in safety, efficiency, and quality.

Recently, the provincial governments in Pakistan have undertaken bus-franchising schemes, which offer exclusive operating rights to private transit operators on selected routes. The transit operators, in return, guarantee a certain minimum quality of service. The bus-franchising scheme has delivered hundreds of new buses plying on urban routes in cities in Sindh and Punjab province.

The franchised bus service has been a step up in quality when compared with the informal transit service it has replaced on the selected routes. However, bus franchising has raised some concerns as well. For instance, the franchised bus service has been more expensive than the service it has replaced, creating new hurdles for poor urban households. Furthermore, informal transit operators have lost their livelihoods because of the new bus franchising services. The experience in transit franchising in Pakistan suggests that the gains in quality and efficiency may have been realised at the cost of social equity.

This chapter explores the mobility constraints faced by the low-income households in Pakistan and focuses on public transit operations in the Greater Islamabad Rawalpindi Area (GIRA). Further, it discusses the benefits and problems resulting from privatization of public transit in general, and bus franchising in particular.

The Government's Role in Public Transit Provision in Pakistan

The rapid pace of urbanization in Pakistan has resulted in a significant increase in the demand for urban services at a time when governmental and private sector resources have become increasingly scarce. Even as the physical infrastructure in cities is already inadequate, and the means necessary to maintain it dwindle, demands multiply rapidly as

thousands of rural dwellers move to the cities. Infrastructure inadequacies are particularly serious in water and sanitation, affordable housing, solid waste collection and disposal, and public transport. The shortcomings of the urban transit system in Pakistan have huge ramifications because public transit affects the lives of poor urban households who rely on public transit for their daily trips for employment, education, health, shopping, and other needs.

The provincial governments in Pakistan have historically owned and operated most inter-city and urban transit services in Pakistan. Over the past twenty years, these governments have withdrawn numerous services, including public transit. The withdrawal of state operated urban transit created a vacuum that was immediately filled by the private sector. The state's role as a regulator of public transit should have become increasingly important once the private sector assumed responsibilities for public transit. Instead, the state did not effectively regulate public transit, leaving commuters at the mercy of private operators. Consequently, transit service has deteriorated significantly over the years. At present, urban transit in Pakistan may best be characterised as informal transit.

The role of the government and the private sector in providing public transit has been widely discussed in the transport literature. A rather dated, yet increasingly relevant, World Bank analysis of bus transit debated the pros and cons of public and private ownership (Armstrong-Wright and Thiriez, 1987). The study noted that in a number of cases, private ownership of public transit provided cheaper services. State-owned transit systems mostly operated large buses while privately owned ones used smaller vehicles that were less energy efficient and generated more pollution. Smaller vehicles added to traffic problems because drivers had the tendency to weave in and out of traffic, they did not conform to any schedule, they drove at higher speeds, and they violated traffic rules and regulations.

Despite some of the problems noted above, Armstrong-Wright and Thiriez (1987) argued that transit services in the developing world work best with minimum intervention from government. They cited evidence that publicly operated transit services could not cover the operating costs from the fare box, whereas most privately owned and operated transit services were profitable. Over the years, the World Bank's strategy papers have supported a stronger role for the private sector in transport services, arguing that competition results in higher efficiency. At the same time, the Bank papers have stressed the importance of carefully managed competition when de-regulating and privatizing transit services.

A study of transit operations in Karachi in 1985 offers some insights into the differences in operations between state-owned and privately-operated transit. Even though the study is from two decades ago, transit operation in urban Pakistan has not changed significantly since then. The study showed that publicly operated transit providers were able to operate only 40 percent of their fleet owing to poor maintenance (Armstrong-Wright and Thiriez, 1987). Private operators, on the other hand, operated 70 percent of their fleets. Similarly, the employee to bus ratio was two times higher for public operators than for private

transit operators. Because of these cost factors, publicly-owned transit was more expensive to operate than the privately-owned transit.

Recently, some provincial governments have introduced bus-franchising schemes in large cities in Pakistan. The franchising schemes have offered monopoly over certain routes to the franchisers who have replaced the inadequate transit vehicles with large buses and further committed themselves to a minimum standard of transit service provision. The resulting improvement in transit service has generally been accompanied by significant increases in transit fares, which have resulted in mass protests by poor households. The protests against once such franchising service in GIRA forced it to first suspend and later completely close its operations.

The transit captive riders in GIRA, who could not afford any other means of travel, faced considerable hardship when the franchised service was shut down and no other transit was available in the interim. The important role of public transit in the lives of the low-income households became acutely obvious when almost all transit disappeared from the roads in GIRA. The low-income households faced a unique dilemma. Public transit, though affordable, proved significantly inadequate. On the other hand, the franchised transit provided adequate transit service, but at rates that were not affordable for the low-income households. The onerous task of balancing efficiency and equity in urban transit provision is therefore at the heart of this chapter.

The next section reviews the financial status of various income groups, and their expenditure on transportation. The discussion further reviews the dynamics of urban poverty in Pakistan and its implications for affordable public transit.

Table 6.1

Monthly Consumption Expenditure and Income per Household in Pakistan

Quintiles	Average monthly consumption expenditure per household			Average monthly income per household		
	Urban	Rural	Total	Urban	Rural	Total
First	4472	3904	4004	5006	4259	4391
Second	5630	4864	5011	6307	4967	5224
Third	6592	5452	5728	7068	5582	5943
Fourth	7587	6057	6514	7786	6269	6722
Fifth	12610	8376	10334	14203	8914	11360
Total	8997	5766	6714	9904	6031	7168

Source: Federal Bureau of Statistics (2003)

Household Income and Expenditures in Pakistan

The average monthly household income in urban areas in 2003 was estimated at 9,904 Pakistani Rupees (PKR), or about US\$ 171, assuming an exchange rate of 58 PKR for every US dollar (Federal Bureau of Statistics, 2003). Table 6.1 shows that incomes and expenditures are lower in rural compared to urban areas. Also, while the highest earning

20 percent of households in urban areas earn almost three times more than the lowest earning households, the lowest 20 percent households in rural areas earn half as much as the 20 percent highest earning households. Finally, Table 6.1 demonstrates that 80 percent of urban households earn less than PKR 8,000 per month.

The breakdown of expenditures in Table 6.2 demonstrates that food and related consumables account for the lion's share of the household budget. These are followed by housing, and fuel and lighting. It is important to note that urban households spend almost three times for housing than rural ones. Urban households also spend more on transport and communication (about 4.4 percent). Based on their monthly expenditures in Table 6.1, this implies that an average urban household would spend PKR 393 on transport and communications.

Table 6.2

Percentage of Consumption Expenditure by Commodity Groups (2001-02)

Commodity Groups	Urban	Rural	Total
Food, drinks, and tobacco	38.85	54.42	44.83
Apparel, textile, footwear	5.63	7.23	6.6
Transport & communication	4.36	3.56	3.87
Cleaning and laundry	3.73	3.85	3.8
Recreation and entertainment	0.77	0.27	0.47
Education	5.52	2.39	3.62
Housing (rent and other costs)	21.49	7.88	13.23
Fuel and lighting	7.55	8.09	7.88
Miscellaneous	12.1	12.31	12.22

Source: Federal Bureau of Statistics (2003)

Trade-offs Among Food, Housing, and Transportation

Households often manage the trade-offs between food, housing, and transportation to maximise the utility they derive from the consumption of these items. For urban households, only 4.4 percent of the budget is devoted to transport and communications. However, as much as 70 percent of the budget is devoted to food, housing, and utilities. With a rapid increase in the cost of living, necessities such as housing and food take up an even larger share of the household budget. Low-income households feel these budgetary pressures more than the rest. A comparison of expenditures disaggregated by income reveals that high-income households, for instance, spend a greater share of their income on transportation, whereas low-income households spend a higher percentage of their income on food and shelter.

Studies have shown that the results of household expenditure surveys tend to underestimate transportation expenses. Dedicated transportation surveys, on the other hand, tend to overestimate what people spend on transportation. Thus, household surveys may indicate that families spend only 4.4 percent of expenditure on transport and communication, while transport surveys show these items accounting for 8-16 percent

(Gwilliam, 2001). The spread of these estimates has certain implications for affordable transit. For instance, given the budget constraints, how much can households in different income categories spend on transportation? In addition, when do transport expenses become prohibitive for low-income households? While the answer to these questions differ by the socio-economic characteristics of different regions, there are however some guidelines available. For instance, the “Armstrong-Wright Maxim” states that mobility-related discrimination occurs when more than 10 percent of households spend more than 15 percent of their income on work-related journeys (Armstrong-Wright and Thiriez, 1987).

Urban Poverty in Pakistan

It has been estimated that one in three households in Pakistan lives below the poverty line (Qureshi and Arif, 2001). In general, poverty is more prevalent in rural than in urban areas. Recent studies have revealed that poverty levels in Pakistan have risen during the 1990s (Kemal *et al*, 2001). Moreover, Table 6.3 suggests that between 1992 and 1997 real wages have declined for low-earning occupations. This has resulted in lower buying power of such households who may have to spend an even greater proportion of their income on food and housing.

Table 6.3

Average Real Wages for Selected Occupations

Average real wages (PKR/per person/per day)	Years	
	1992-93	1996-97
Carpenter	63	59
Mason	62	60
Laborer	30	30
Agricultural workers	18	19

Source: Arif *et al* (2000)

A particularly important element in transport studies is the effect of household income on accessibility (Silva *et al*, 1998). Studies have shown that with increasing income, households initially tend to spend more on transport. However, at higher income levels, the transport expenditures tend to decline as a proportion of total income. But the opposite is true for low-income households, who spend a greater share of their income on food, housing, and utilities when their real wages decline over time. When the real wages decline in value over time, low-income households experience a decline in their transport budget, which could also limit their accessibility to jobs.

In Pakistan, gender adds a critical dimension to poverty and accessibility. Women in Pakistan tend to be less skilled, are not well-integrated in the workforce, and earn significantly less than males (Siddiqui and Hamid, 2003). The lack of opportunities, capabilities, and personal security has contributed to a lower level of welfare for women. Table 6.4 indicates that the female participation rate in the labor force in urban Pakistan is significantly lower than that of males. Similarly, the unemployment rate for women is

five times higher than that for males in urban areas. In addition, most women are crowded into the services sector.

Table 6.4

Gender-based Differences in Employment in Pakistan

Employment Characteristics (1996-97)	Male (%)	Female (%)
Labour force participation rate	66.5	8.43
Unemployment rate	5.11	25.15
Sectoral Distribution		
Agriculture	5.55	7.17
Industry & Mining	21.09	21.91
Construction	7.17	0.4
Trade	28.15	6.77
Transport & Communication	10.13	0.8
Services (Business & Social)	25.85	62.55
Others	2.06	0.4

Source: (Arif *et al*, 2000)

It is interesting to note that the female participation rate in rural areas is significantly higher than the female participation rate in urban areas (Arif *et al*, 2000). There could be numerous explanations for the difference. One important explanation is the fact that in rural areas, accessibility to employment is not a deterrent. Women who work in agriculture often walk to the fields, which are located close to their homes. The situation in urban areas is very different, where work-related accessibility remains a concern for women. Cultural norms often restrict the mobility of women workers who are often restricted from commuting to work alone.

Studies have also shown that women are often not well served by public transport (Turner and Fouracre, 1995). The same is true in Pakistan. Women are often left waiting for public transit at bus stops, while the men climb on to moving transit vehicles, which seldom come to a complete halt. The lack of dedicated seats on buses in the private sector has created significant mobility constraints for women. The accessibility to education and employment for women in Pakistan has suffered a great deal because of inadequate public transit. The sharp decline in enrolment of young girls beyond primary school is also, to some extent, caused by lack of adequate transport. Parents do not allow girls to walk alone to secondary schools, which are often located in remote neighbourhoods. Young girls have been withdrawn from school in instances where parents or older brothers are not available to accompany young girls to school. Similarly, young educated women are prevented from working if the men in the household are not satisfied with the transport service.

Urban Dynamics in Pakistan and the Greater Islamabad-Rawalpindi Area (GIRA)

This section describes the demographic and mobility dynamics before the bus franchising was introduced in GIRA. The section also highlights the deficiencies in the informal transit system that became the catalyst for bus franchising.

The urbanized areas of Islamabad and Rawalpindi constitute the Greater Islamabad-Rawalpindi Area or GIRA. Islamabad, the national capital of Pakistan, was established as a new settlement in the early 1960s. It was built adjacent to the historic town of Rawalpindi, which has experienced rapid urbanization since the capital was shifted from Karachi. GIRA has a population of 1.9 million, and an annual rate of population increase of around four percent. Being the federal capital, Islamabad is home to most federal government ministries, the Parliament and the Senate, the Supreme Court, and diplomatic missions. A high-end retail sector has also emerged in Islamabad over the years.

Urban Islamabad has an area of 220 square kilometres, with a peak population density of 12,000 persons per square km in some areas. On the other hand, urban Rawalpindi has an area of 94 square kilometres with a peak population density of 60,000 persons per sq km (Scandiaconsult and Contrans AB, 1995). The biggest employer in Rawalpindi is the Pakistan Armed Forces. A vibrant retail sector employs a large number of workers as well. The residential real estate in Rawalpindi is cheaper in comparison to Islamabad. Most low- to mid-income workers in Islamabad reside in Rawalpindi, which results in congestion in the morning and afternoon peak periods on a small number of arterials that connect the two cities. While most low-income workers use public transit, a large number of workers commute between the two cities on motorized two-wheelers and increasingly by cars as well.

The urban transportation characteristics of GIRA are similar to those in other mid-sized cities in the developing world. For instance, the diversity in modes and mixed traffic become an impediment to effective transportation management. Animal drawn carts, bicycles, small transit vehicles, and two- and three-wheelers compete for space on urban arterials and freeways along with high-speed vehicles such as automobiles and buses. This situation reduces the performance of transport systems, resulting in low average speeds and fuel efficiency, and high accident and emission levels.

Non-franchised Transit in GIRA

Estimates of transit vehicles suggest that in 1994-95, 3,229 vehicles were licensed to operate public transit in GIRA (Table 6.5). Buses were predominantly licensed in Islamabad, while smaller vehicles were licensed in Rawalpindi. Almost 50 percent of the transit fleet comprised Suzuki pickups, which have a limited capacity of 10-12 passengers. Less than three percent of the transit fleet comprised buses. This suggests that the transit operators in GIRA primarily operated small vehicles, resulting in an inadequate transit system.

Table 6.5**Public Transit Vehicles in GIRA**

Vehicle Type	Licensed in			Total	Percentage
	Islamabad	Rawalpindi	Both Cities		
Bus	78			78	2.4%
Minibus			312	312	9.7%
Wagon	485	55	685	1225	37.9%
Pickup	175	1139	300	1614	50.0%
Total	738	1194	1297	3229	100%

Source: Scandiaconsult and Contrans AB (1995)

Non-franchised transit in GIRA offered inadequate service to low-income households, women, and the elderly, while services for the physically disabled did not exist. Moreover, the transit service was mostly unreliable and transit operators often overcharged during the peak demand periods. Results from an informal survey of quality of service and capacity for the non-franchised transit modes in GIRA are summarised in Table 6.6. The four public transit modes are compared for their capacity, affordability, and service to the transportation disadvantaged (e.g., low-income people, the disabled, and the elderly). Mid-income households, who typically rely on public transit, would find bus and mini bus service acceptable. At the same time, they would prefer improvement in transit quality and are likely to pay for comfort and convenience. In addition, such households are more likely to avoid wagons and Suzuki pickups because of the poor quality of service.

Table 6.6**Quality of service for various transit types in GIRA**

Transit mode	Quality of Service					
	Passenger capacity	Affordability		Transportation Disadvantaged		
		Mid-income	Low income	Disabled	Women	Seniors
Bus	50-70	Acceptable	Acceptable	Poor*	Acceptable	Acceptable
Mini bus	30-40	Acceptable	Acceptable	Poor*	Acceptable	Acceptable
Wagon	18-24	Poor	Acceptable	Poor	Poor	Poor
Suzuki						
Pickups	10-12	Poor	Fair	Poor	Poor	Poor
Varan***	50-75	Good	Poor	Fair**	Fair**	Fair

- * No special provisions
- ** Minimum standards met
- *** Franchise Buses
- **** Expensive

For low-income households, affordability is the prime concern and therefore such households would prefer the least expensive modes of transit, such as Suzuki pickups. In general, public transit is highly inadequate to meet the mobility needs of the disabled. The lack of dedicated seats for women and their harassment in non-franchised transit vehicles were common occurrences.

The following list highlights deficiencies in non-franchised transit in GIRA:

- Public transit did not adhere to schedules. Regular service was effectively provided only during the peak period.
- Transit operators did not adhere to the published fares. This occurred more during holidays, when most drivers were away in their native towns, resulting in reduced transit supply.
- During rush periods, transit vehicles rarely came to a standstill to allow passengers to board or alight. Passengers had to climb on and jump off the moving vehicles. This practice had severe safety implications. Transit vehicles also made irregular stops to pick up or drop off passengers. This often contributed to congestion.
- Over-loading was a common practice during peak periods. Often commuters were forced to hang from the exterior of vehicles and sometimes even ride on the rooftops.
- Drivers often did not operate over the entire route and abandoned passengers when ridership was low.
- At the same time, transit vehicles would often be operated only when full. Otherwise, they would remain parked at the stop, resulting in congestion and great inconvenience to passengers.
- Transit vehicles were not properly maintained due to the severe competition and low profit margins. Often, such vehicles broke down and caused traffic bottlenecks. They were also more likely to get involved in accidents. In addition, poorly maintained vehicles caused higher levels of pollution.
- Speeding and reckless driving, resulting from transit vehicles competing for passengers, caused numerous accidents and mortalities.

Deregulation and Franchising of Public Transit in Punjab

Public transit was initially de-regulated in Pakistan in the 1970s. While the market was open to private competition, the government of Punjab province continued operating urban transit under the Punjab Road Transport Corporation. The provincial government incurred heavy financial losses, resulting in the decline in the fleet size from 1,000 buses to only 50 (Khandaker, 1999; United Nations, 2001). In 1998, the Government of Punjab, recognising the failure to offer reliable and efficient transit service to commuters, and more specifically to the physically disabled, seniors, and women, decided to shut down the publicly operated urban transit. A large number of small operators had already flooded the market, albeit with inappropriate vehicles, which were not fit to be used as transit vehicles. The large number of small transit operators made regulation of transit service even more difficult. This led to the introduction of transit franchising, where the government allowed a franchise to operate exclusively on a route in return for guaranteeing a certain level of service.

Following are the salient features of the bus-franchising scheme in Punjab (Government of Punjab, 2003):

- The franchise for a route is awarded through a “transparent and competitive bidding process”.
- Franchise period is for 10 years.
- Franchise affords exclusivity of operations on the franchised route, provided the franchisee is able to cater to the entire load of passengers.
- Fares are flexible (more on this later).
- A subsidy of 4 percent for non-air-conditioned buses and 8 percent for air-conditioned buses is awarded to operators for the purchase of vehicles.
- Bids are advertised in the press. A bids evaluation committee, made up of senior officials from the province, evaluates all bids, with special attention given to the financial stability of the bidding operator. The recommended bids are sent to the provincial chief minister for approval, who issues the franchise for an initial 10-year period.

Franchise operators can also lease land, terminals, and depots previously used by the (now defunct) state-owned Punjab Road Transport Corporation. The government also offers low interest rates for loans to import buses, along with exemption from import duties. Both foreign and local franchise operators can bid for franchises. The minimum fleet requirement is 40 and 20 new buses for large and small cities respectively. The government also offers financial guarantees in the case of direct foreign investment.

Most franchise operators in Punjab were already operating inter-city transit buses. For instance, M/s New Khan and Daewoo had been operating inter-city buses between Lahore and Rawalpindi. More established transporters had access to capital and were already familiar with local bureaucratic requirements. For such operators, moving into urban transit proved straightforward. However, new transit operators such as M/s Varan Tours in Rawalpindi also ventured into the transit market. In February 2000, M/s Varan Tours started its service in GIRA with a fleet of 155 buses, and planned to add 100 buses later.

Concerns about Public Transit Franchising in GIRA

The mid-income working class welcomed the efficient transit service provided by the franchisers. Indeed, mid-income commuters in general and women in particular, benefited the most as a result of the introduction of franchised transit (Anjum, 2001). Mid-income senior citizens, who need assistance in embarking and disembarking, also benefited from franchised transit. Each franchised bus had two reserved seats for disabled commuters. At the same time, low-income commuters complained primarily about the high transit fares charged by the franchise operators. On average, transit fares increased by 50 to 60 percent for various trip lengths on the most congested route, which runs from downtown Rawalpindi to a terminus near Faisal Mosque in Islamabad (Table 6.7).

A sudden increase of this magnitude in transit fares did not bode well for commuters, or for that matter, for franchised transit. The general rule of thumb in North America has been that a 10 percent increase in the fare results in roughly 3 percent decline in

ridership. In the developing world this rule may not hold, because most transit riders are “transit captive” and have no viable alternative. Moreover, these captive riders belong to low-income households. A systematic evaluation of the impact of franchised transit on the mobility of low-income households in Pakistan has not yet taken place.

Table 6.7

Transit fares in Rawalpindi

From Saddar (downtown) to	Fare charged by various transit modes (in 2003 PKR)			
	Varan (Franchise)	Taxi Cab	Wagon	Bus/Mini bus*
Committee Chowk	8	30 -40	5	5
Chandni Chowk	8	50	5	5
Faizabad	8	70-80	6	6
Aab Para	12	120-130	8	8
Melody	12	120-130	8	8
Faisal Mosque	12	140-150	No service	12

*Mini buses and wagons operating between Saddar and Faisal Mosque were replaced with franchised service.

The average capacity of the new buses introduced by Varan Tours was around 50 to 70 passengers. The two hundred franchised buses in GIRA would have added a maximum of 18,000 seats. This was, however, not a net increase in the transit capacity, since the franchised buses had replaced existing, albeit sub-standard, transit vehicles. Many argue that the formula used to determine the minimum number of franchised buses had been erroneous. The government used a fixed formula to determine the number of franchised buses required to replace the non-franchised transit vehicles, which carried a route permit. In fact, the actual number of vehicles operating was significantly larger than the number of vehicles that were licensed to operate. Even though a large number of vehicles were operating illegally, they were nevertheless serving the transit demand in GIRA. The franchised operators replaced only those transit vehicles that carried route permits. This resulted in an undersupply of franchised transit from the very beginning that added to commuter frustration and anger.

The franchising scheme also met with strong resistance from the non-franchised transit operators in GIRA, who argued that thousands of households lost their livelihood because their route permits were cancelled to allow exclusive operating rights for franchised buses (Anonymous, 2003a; 2003b). Political unrest followed, with strikes and demonstrations by the affected non-franchised operators. Some commuters who could not afford to pay the higher transit fares also joined in the protests against the franchise transit operators. The protests turned violent after accidents involving franchised buses, often resulting in franchised buses being torched by crowds that gathered after the accidents.

After operating for a few years, Varan Tours suspended its service in 2005, because it could not resolve disputes over exclusive operating rights, route allocation and fares with the local regulators in GIRA. According to Varan Tours, the violence against their

employees and buses was orchestrated by the transit operators who had lost their livelihood because of the franchised monopoly. And today, informal public transit vehicles, which do not fulfill the travel needs of the majority, are back on the streets in GIRA.

Recommendations for Urban Transit Improvements in GIRA

The foregoing discussion shows that transit franchising, if not properly implemented and managed, can leave many people worse off (non-franchised operators, low-income households, etc.). Even though franchised transit created new job opportunities, it eliminated jobs for non-franchised transit operators. In addition, by using resources more efficiently while offering better service, franchised transit has the potential to cause additional losses in net employment.

Transit franchising should ideally improve overall accessibility, mobility, and safety. A particular challenge is to compensate those who are made worse-off. The following strategies are recommended to improve transit franchising, and more generally, urban transit in GIRA, and Pakistan as a whole.

1. *Establish an independent transit regulatory commission.* Transit regulation is largely in the hands of non-professional (administrative) staff in local governments. Trained transit professionals are generally absent from the regulatory process. Semi-literate clerks, who work in the regional transport offices, are carving out new transit routes. It is understood that the traffic police have been in cahoots with unlicensed transit operators. The state needs to invest significantly in improving the quality of transit regulation in Pakistan.

2. *Actively involve stakeholders in transit governance.* The regulation of transit franchising, and transit planning and implementation generally, are highly non-participatory at present. It would be desirable to involve the various actors and agencies, including non-franchised transit operators, franchisers, law enforcement, local politicians, and most importantly, commuters, in order to improve service delivery and reconcile conflicts. Commuters are simply not consulted on matters relating to public transit in Pakistan. They are fully aware of the drastic increases in fuel prices, and would understand the need for fares to be benchmarked against fuel prices for the financial viability of transit. However, because they are not part of the decision-making process, they rebel against any fare hike. A liaison committee comprising representatives of commuters, transit operators and regulators could act in a transparent manner in determining fares and routes.

3. *Resolve conflicts resulting from franchising.* Transit franchising is capital intensive and therefore it has attracted established transport operators, who have ready access to capital, and political and bureaucratic authorities. Transit operators who are forced out of the market as a result of franchising, could be given access to non-franchised routes. However, non-franchised operators might continue operating in the same inefficient and unsafe manner. This strategy would merely transfer the risks from one set of routes to

another. Assisting non-franchised transporters to set up cooperatives to bid for franchised routes, while attractive, might not be very successful in stemming job losses. It has to be recognised that the playing field between large and small transit operators is not level. For instance, Suzuki pickup operators might not have enough resources or collateral to form a cooperative to operate franchised transit. The cost of new buses and related infrastructure is prohibitive. One option might be to offer vocational training to transit operators to ease their transition into other careers.

4. *Ensure proper allocation of public transport infrastructure.* Franchise operators require access to publicly-owned transit infrastructure, such as bus depots and workshops. Governments in Pakistan have agreed in principle to allow franchise operators the use of infrastructure of the defunct state transit authorities. In practice, however, such concessions were not extended to franchise operators in Rawalpindi and Karachi. The stumbling block was the lower level bureaucracy, which owed its allegiance to the proprietors of defunct public transit operators. In some instances, the prime real state assets held by the state-owned transit corporations were either sold or converted into housing for employees. For future franchising in Punjab and other provinces, the provincial governments should preserve public transit infrastructure (bus depots, filling stations, etc.), which may be leased to franchise operators.

5. *Correct the imbalance in land use.* Not all transportation problems in GIRA and other regions have been caused by inefficient transit systems. In GIRA, the land use imbalance, caused by the concentration of government and retail jobs in Islamabad and affordable housing in Rawalpindi is a major problem. Along with improving transit services, the government should work to mitigate this imbalance, by creating high-density, affordable housing in Islamabad in areas conducive to transit operations and by strategically locating employment nodes in Rawalpindi to eliminate the need for workers to commute long distances. The largest employer in Rawalpindi is the Pakistan Armed Forces. In the next five years, the General Headquarters and the related branches are scheduled to relocate in Islamabad. This move is likely to exacerbate traffic congestion caused by the land use imbalance in GIRA.

Resolving the Viability-Affordability Dilemma

We have so far discussed the problems that have arisen as a result of the introduction of bus franchising in Pakistan, and strategies that might be applied to alleviate some of these problems. But there is a larger issue, given the critical need for adequate public transit supply on the one hand, and the importance of ensuring affordability of transit service for low-income users and the urban poor on the other. In other words, how do we achieve a balance between efficiency and equity in public transit in Pakistan?

The successful implementation of bus franchising, and indeed public transit generally, hinges to a great extent on the transit fare structure. Improvements in transit service do justify an increase in transit fare. At the same time, the transit fare structure and how it affects the accessibility and mobility of the poorest segments of society is an important policy challenge for regulators and operators of public transit.

In this final section, we use the income and expenditure surveys in Pakistan to develop an understanding of transit affordability. Once the affordable transit fare is determined, the next step involves determining the minimum fare required for breakeven by transit operators. Finally, the gap between the affordable fare and the breakeven fare, and the government’s possible role in bridging that gap is discussed.

A survey of transit fares charged by different transit operators is presented in Table 6.7. The minimum fare charged by the non-franchised transit was PKR 5, whereas that charged by the franchised transit was PKR 8. The average fare charged by non-franchised transit was PKR 8.50.

Using the household expenditure survey data, transport affordability is computed for different income groups in Pakistan. While reviewing the household income and expenditure earlier, we noted that households, on average, spend about 4.4 percent of the total expenditure, or about PKR 396 monthly, on transport and communications. The same survey reported that on average, a household consisted of two earners. Assuming that 85 percent of the transport and communications budget is spent on transport and that both earners require work-related commuting by public transit while other household members do not incur transport expenses, the fare per work trip per earner for the entire population is estimated at PKR 4.30, assuming 40 work trips per month (Table 6.8). However, more than 80 percent of urban households under the given assumptions could only pay a transit fare of less than PKR 3.60. Similarly, earners in the lowest income quintile of households could afford no more than PKR 2.10.

Table 6.8

Household Budgets and Transport Expenses

Pakistan (urban areas, 2001-02) Avg. Monthly Consumption Expenses/household	Expenses	Transport & communication	Fare (PKR)
Total	8,997	396	4.3
1st Quintile	4,472	197	2.1
2nd Quintile	5,630	248	2.7
3rd Quintile	6,592	290	3.1
4th Quintile	7,587	334	3.6
5th Quintile	12,610	555	6.0

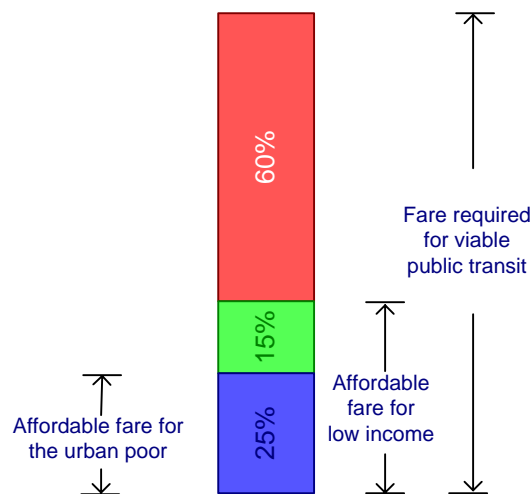
If we use PKR 8.50 as the average fare for the non-franchised transit operators, a household with two workers who need to commute to work would spend approximately PKR 700 monthly on transportation. This amount does not include transport related expenses other than for commuting, nor does it include any transport expenses whatsoever for any other member of the household. With these assumptions, one can see that the lowest income quintile of households would spend more than 15 percent of their budget on transportation costs for the two earners alone.

The important question is what the lowest earners can afford for public transit. Table 6.8 suggests that if the households in the lowest income quintile use the entire transport budget to pay for the daily commuting costs incurred by the two workers in the household, they could pay no more than PKR 2.10, which is roughly 25 percent of the minimum fare charged by franchised operators (and the average fare charged by the non-franchised operators). Indeed, even the households in income quintiles 3 and 4 could afford only around 40 percent of this fare.

The fare structure necessary for financial viability of even the non-franchised transit is likely not affordable, even for mid-income households. If even mid-income earners can afford only 40 percent of the fare that is necessary for the transit operator to be financially viable, how might the affordability gap be bridged, particularly for the very poor? But on the other hand, if transit operators, and especially franchised operators, are forced to deliver transit services at fares that are affordable, such services are highly unlikely to be financially sustainable, and they might disappear over time. This situation, graphically depicted in Figure 6.1, highlights the dilemma between transit viability (and therefore the ability to sustain transit provision), and the equally important equity objective of ensuring affordability.

Figure 6.1

The Affordability Gap in Public Transit



Distinction between Urban Poor and Low-income Households

In resolving the viability-affordability dilemma, it would be useful to distinguish between the transport needs of the very poor and those of low-income groups. The trade-off between housing and transportation costs influences the choice of location, type and size of housing, and transport services consumed by households. Table 6.9 depicts the classification of households by income to demonstrate the housing-transportation trade-offs. Poor households live in informal housing and often locate very close to their

employment. Examples are construction workers who often live on-site. Their mobility needs are different from those of low-income households whose housing location is constrained by affordability. Low- to mid-income households depend on public transit more than either very poor or high-income households.

We argue in view of the foregoing that improving public transit services is likely to have the greatest impact on, and should therefore be targeted at, households that fall within the mid-income strata (perhaps the second to the fourth income quintiles). If transit services are designed to be affordable for the poor, who may in any case not rely to a great extent on motorized transport, the quality of such transit service is likely to be inferior, and unattractive to mid-income households.

Table 6.9

Housing-Transportation trade-off in GIRA and its Impact on Transit

Poverty Level	Housing	Mode of travel	Potential for Transit
Very Poor	Informal housing	NMT*	None
Poor	Inadequate housing	NMT/public transit	Low
Low-income	Semi-adequate housing	Public transit/NMT	Very high
Lower mid-income	Less than sufficient housing	M2W**/Transit	Very High
Middle income	Sufficient housing	M2W/Transit	High
Upper mid-income	Adequate housing	M2W/Car	Low
High income	Adequate housing	Car	None

* NMT: Non-motorised travel by walk or bike modes; ** M2W: Motorised two-wheelers

The government can of course enforce a fare regime on franchisers that may be affordable for most commuters. However, the franchise operator is likely to shut down operations, if the fare regime is not financially viable. Indeed, Varan Tours were forced to terminate their services over fare and route disputes. If transit operators suddenly abandon service delivery, low-income households would be worse off than before. While this chapter does not address in detail how to plug the affordability gap, we believe that the state’s role in financially viable and socially equitable public transit should extend beyond impartial and effective regulation, important as that is, to ensuring that improved transit services address the mobility needs of low-income households. The gap between the affordable fare and the minimum fare required for breakeven by transit operators may be filled either by direct or indirect subsidies on the part of government. A direct subsidy could involve financial assistance to the operator, as has been tried in the UK. Conversely, low-income commuters (and students and seniors) could receive vouchers from the government to bridge the gap between what they can afford and what is being charged by the transit operators. This in-direct subsidy would allow operators to charge fares that keep the service profitable. As for the urban poor, more important than affordable transit might be the provision of affordable shelter, and to ensure that access is not compromised for them and the non-motorized modes on which they rely.

Conclusions

It is important to enhance both the supply and quality of public transit in Pakistani cities, to meet mass mobility needs and to curb motor vehicle activity, and resulting impacts. At the same time, there is a critical need to provide affordable urban transit services, particularly for low-income groups, women, the disabled, and the elderly, who rely largely on transit to access employment, education, health and other essential services.

It is difficult to achieve these conflicting objectives, and to balance efficiency and equity in public transit, as we show through our case study on franchised bus transit in Pakistan. While mid-income commuters benefited from the improved service provided by the franchised operators, lower income commuters were not able to afford the increased fares. On the other hand, if operators were forced to charge affordable fares, they would not be financially viable, and quickly go out of business, also not a desirable outcome from the point of view of low-income commuters.

The approach we have suggested for reconciling the viability-affordability dilemma, as we have termed it, is to target improved public transit services at households that fall within the mid-income households, which are most likely to be able and willing to pay the incremental costs of such services, and also the most likely to abandon public transit, absent quality service. In order to promote affordability at the same time, governments can consider subsidising either the transit operators or low-income households.

Just as importantly, there is a critical need for effective, transparent, and participatory governance of transit, as demonstrated by our discussion of the difficulties with implementation of bus franchising. Since good governance depends on the quality of personnel, there is an urgent need for capacity building in urban transport planning in Pakistan.

Acknowledgements

Research assistance by Mr. Irteza Haider is greatly appreciated.

References

- Anjum, G. A. (2001), *Franchise Operation: A New Approach Towards Improving Urban Public Transport in Pakistan*. First International Road Transport Conference, Lahore.
- Anonymous (2003a), "Franchise scheme termed black law by transporter leader", Rawalpindi: Pakistan Press International Information Services. June 8. Rawalpindi.
- Anonymous (2003b), "Transporters stage rally against franchised scheme", Rawalpindi: Pakistan Press International Information Services. June 4. Rawalpindi.
- Arif, G. M., H. Nazli, and R. Haq (2000), *Basic MIMAP Poverty Profile of Pakistan*, Pakistan Institute of Development Economics. Islamabad.

- Armstrong-Wright, A. and Thiriez, S. (1987), *Bus services: reducing costs, raising standards*, 68, Urban Transport Series, Washington, DC.: The World Bank.
- Federal Bureau of Statistics (2003), *Household integrated economic survey*, Islamabad: Federal Bureau of Statistics, Government of Pakistan.
- Government of Punjab (2003), *Functions of Transport Department*. Lahore, Punjab.
- Gwilliam, K. M. (2001), *Cities on the Move: A World Bank Urban Transport Strategy Review*, Washington, DC.: The World Bank.
- Kemal, A. R., M. Irfan, and G. M. Arif (2001), *MIMAP Synthesis Report: Major Conclusions and Policy Implications*, Pakistan Institute of Development Economics. Islamabad.
- Khandaker, A. R. (1999), “Ensuring safer highways”, Dhaka: The Independent. October 15.
- Qureshi, S. K. and G. M. Arif (2001), *Profile of Poverty in Pakistan, 1998-99*, Pakistan Institute of Development Economics. Islamabad.
- Scandiaconsult and Contrans AB (1995), *Greater Islamabad/Rawalpindi Area Transportation Survey (GIRATS): Final Report*, Pakistan Institute of Development Economics. Islamabad.
- Siddiqui, R. and S. Hamid (2003), *Gender, Poverty, and Occupational Choice in Poor and Non-poor Households: An Analysis Based on the Household Survey Data of Pakistan*, Pakistan Institute of Development Economics. Islamabad.
- Silva, A.N.R., R. S. Lima, A. A. Raia Jr, and P. V. D. Waerden (1998), “Urban Transportation Accessibility and Social Inequity in a Developing Country”, *Urban Transport Policy*, pp. 709-714.
- Turner, J. and P. R. Fouracre (1995), “Women and transport in developing countries”, *Transport Reviews*, Vol. 15, No. 1, pp. 77-96.
- United Nations (2001), *Review of Developments in Transport and Communications in the ESCAP Region, 1996-2001: Asia and the Pacific*, New York, NY: Economic and Social Commission for Asia and the Pacific.