

Developing the Public Transport Sector in China

Issues to consider in the organization, supply, and regulation of public transport bus services

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Via State Council Opinion #46 and other supporting announcements, the Chinese national government has declared that urban public transport development should be a high national priority. It has also identified, in general terms, a number of principles and measures on which the prioritization of public transport should be based that are novel in the Chinese context.

This is one of a series of discussion papers published by the World Bank that supports the efforts of Chinese municipalities, the Ministry of Construction, and other interested authorities in China to implement State Council Opinion #46. The focus of this discussion paper is on institutional arrangements for the provision of public transport bus services, including the introduction of private capital in bus operations, the value of competitive tendering mechanisms as a determining factor in selecting suppliers, and the role of regulation. The purpose of this paper is to assist Chinese municipalities by describing the experience of other countries that have attempted to implement similar reforms, which may be considered relevant to China.

Foreword

The focus of this discussion paper is on institutional arrangements for the provision of public transport bus services, including the introduction of private capital in bus operations, the value of competitive tendering mechanisms as a determining factor in selecting suppliers, and the role of regulation. The purpose of this paper is to assist Chinese municipalities by describing the experience of other countries that have attempted to implement similar reforms, which may be considered relevant to China.

This paper was initiated as a result of discussions between the World Bank, the Ministry of Construction and a number of Chinese cities where the Bank is involved on issues related to Urban Transport. It was clear that a number of Chinese cities are presently grappling with a number of issues related to public transport organization that have been the subject of significant attention worldwide in the last two decades. The paper is written so that city leadership has the benefit of insights of relevant international experience as they find solutions appropriate to China's and the city's particular context.

Peer reviewers and others have provided a number of insights and contributions that have been very helpful. Particular thanks are due to Brenden Finn; section 2.4 relies primarily on concurrent work he has done understanding the state of reform in a number of Chinese cities. The responsibility for all remaining mistakes and omissions remain with the author.

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GLOSSARY OF TERMS

Collusion	Agreement between bidders in tendering situations to avoid competition
Commercialization	Reform of a state agency to work on normal commercial market principles
Competitive tendering	System of bidding for contracts
Concession	Right to exploit a particular market, with considerable commercial freedom
Corporatization	Conversion of state agency into corporate (commercial company) form
Internal cross-subsidy	Subsidy of one product or service from surpluses gained in sale of another product of the same company
Franchise	Right to provide a good or service subject to strict controls of the nature and quality of the product by the franchisor
Gross cost contracts	Contract for service based on the contracting authority retaining passenger revenues and bids based on cost of provision of service
Liberalization	elimination of constraints on commercial freedom in a market, particularly entry to the market
Lot	Unit of service put to competitive tender
Net cost contracts	Contract for service based on the operator retaining passenger revenues and bids based on required subsidy or premium
Off-budget finance	Capital finance by private supplier, not on the books of the public authority
PTA	Passenger Transport Authority; political authority responsible for urban passenger transport management
PTE	Passenger Transport Executive; the executive arm of a PTA
Predation	Aggressive, but commercially unsustainable, action taken to deter competition
Privatization	Transfer of an agency or asset from public to private ownership
Unremunerative service	Service not covering its avoidable costs through revenues from passengers

Executive Summary

Background

Via State Council Opinion #46 (SCO46) and other supporting announcements, the Chinese national government has declared that urban public transport development should be a high national priority. It has also identified, in general terms, a number of principles and measures on which the prioritization of public transport should be based that are novel in the Chinese context.

This is one of a series of discussion papers published by the World Bank that supports the efforts of Chinese municipalities, the Ministry of Construction, and other interested authorities in China to implement SCO46. The focus of this discussion paper is on institutional arrangements for the provision of public transport bus services, including the introduction of private capital in bus operations, the value of competitive tendering mechanisms as a determining factor in selecting suppliers, and the role of regulation. The purpose of this paper is to assist Chinese municipalities by describing the experience of other countries that have attempted to implement similar reforms, which may be considered relevant to China.

Key issues

Following SCO46 and other relevant advice from national authorities many cities in China are working to disengage municipal governments from urban bus operations and to introduce private capital into an industry that has been traditionally reliant on monopoly public operators. The industry to date has had some notable successes in improving efficiency, pricing and the structure of SOEs. Labour inefficiency and redundancy has been reduced and as a result staff to bus ratio have been reduced from 10:1 to 5:1. Commercialization has led to changes in fares structures, real fare increases and the abolition of reduced rate fares. Changes in the internal structure of enterprises has meant many municipal bus companies are now corporatized and operate in an increasingly commercial manner.

However, a World Bank review of current Chinese municipal practices shows that cities are engaged in a variety of practices, which reflect a lack of detailed guidance in how to achieve the objectives issued by national and provincial agencies. In many cases cities were not cognizant of current international and Chinese practices in the urban bus sector and were committing to suboptimal agreements. Specifically, though significant efforts had been made to obtain private capital for the erstwhile public sector bus company, and in some cases to "equitize" the company by selling shares to staff, corresponding steps to enhance the interests of the cities and the bus passengers it is intended to serve were not always taken. Competitive franchising was often replaced with long-term, sole-source contracting, which resulted in reduced value and quality of service to the city and the ridership.

Of the 12 Chinese cities studied all have either implemented changes in the ownership of their SOEs or have active plans to do so. In most cases this is achieved through the creation of a joint stock company, or joint venture, between the government and a commercial company, with the initial investment remaining as capital within the company. In many cases the investors are SOEs from other provinces, although in some cases foreign investors (e.g., from Singapore) are involved. For the most part, however, the deals have been structured to avoid any change of effective management control.

Several of the 12 cities have combined the creation of a joint stock company with the award of long-term franchises (up to 30 years) to new companies. If implemented, these partnerships may close the markets for a generation, making further reform impossible. None of the 12 cities has implemented an open market approach to the provision of transport services. Nor have they developed transparent means of route awards through which operators of all forms of ownership might gain operating rights.

In practice, the PT regulatory units of a given municipality do not appear to have the capacity to function as transport authorities, and the SOEs have been the real executive arm of government for urban passenger transport (UPT), managing ticket and smartcard schemes, dispatching systems, and doing route planning as well as serving as the sole operator. One of the problems with reforming the financing of public transport through the creation of joint stock companies has been that the planning and regulatory skills that exist were within the companies. Consequently, the temptation has been to give new companies very long-term franchises and substantial freedom to continue developing the system as an effective monopoly.

Reform options

A review of international experience suggests that to achieve the objectives set out in SCO46, and to overcome some of the difficulties set out above, there must be a combination of a strong public sector regulatory and service procurement function with a buoyant private sector service provision function competing for the right to supply services. This practice avoids any single individual supplier, whether public or private, gaining unregulated monopoly power. Monopolies create difficulty in benchmarking to ensure that optimum service quality is being achieved, and leave the traveling public vulnerable to the monopoly supplier's potential failure to perform. With a single non-performing supplier it has usually been found to be difficult to enforce change without massive disruption to public service, which is why competition for franchises has been considered vitally important.

The paper asserts that the best franchise (i) aligns operators' incentives with those of passengers (reliability, high quality, transfers) and the city (cost efficiency, safety, low pollution); (ii) provides the city with information to benchmark costs for future planning and for negotiations; (iii) provides the city the tools to control operators, monitor their performance and have the ability to penalize/terminate their services as necessary without undue disruption to passengers; and (iv) offers operators stability and an adequate return-on-investment to attract high-quality bids.

Much of the paper provides insights on different ways in which operations can be franchised and provides lessons from relevant experiences. One of the most important insights of recent international experience is that apart from physical assets (buses, stations, depots and other fixed infrastructure), the rights to offer scheduled service on a route is an important asset that cities own. Properly structured competition provides cities with the best value for this important asset, while also helping the city to fulfill its obligations to offer citizens a safe, reliable, high-quality bus service.

Implementing a reform program

The international experience suggests that successful reform in the public transport sector needs time, and it is useful to structure a reform program into five successive phases:

Phase I: Committing to an agreed program.

- (i) Government to signal intent clearly and designate the group in charge of process.
- (ii) Decide on reform model appropriate to the city.
- (iii) Public discussion and campaign to gain acceptance of key stakeholders.

Phase II: Beginning institutional reform.

- (i) Start institutional change processes such as creating a new transport authority, creating the operator associations or restructuring SOEs. Such processes take time so start early.

Phase III: System design

- (i) Ensure that contracts and process is designed to give bidders appropriate incentives.
- (ii) Issues related to financial planning and roles and responsibilities of operators versus the authority need to be finalized. The procuring authority can finalize contracting process and documents.

Phase IV: Operations

- (i) It maybe advisable to start with a pilot tender or a transition period.

- (ii) Consider a transitional period and arrangement for incumbent public sector operators
- (iv) Establish a schedule towards full-scale application of competitive tendering.

Phase V: Review Phase

- (i) Consider instituting a statutory review of the experience with reform some time after installation.

1 Introduction

1.1 Origin and objectives of this paper

State Council Opinion #46 (SCO46) and associated guidelines issued by the Ministry of Construction in October 2005 have heightened interest among municipalities and other relevant authorities in China in promoting public transport. As a long-standing partner of past efforts in this sector at the municipal, provincial, and national levels in China, the World Bank is pleased to support these efforts with occasional discussion papers.

The focus of this discussion paper is on institutional arrangements for the provision of public transport bus services, including the introduction of private capital and management in bus operations, the value of competitive tendering mechanisms as a determining factor in selecting suppliers, and the role of regulation. This paper has been prepared following a review of organizational arrangements and institutional developments in selected Chinese cities¹, discussions with several Chinese cities, the Ministry of Construction, and the China Urban Public Transport Association. It takes account of other relevant Chinese legislation, in particular *The Opinion of the Ministry of Construction on the Priority Development of Urban Public Transport* and *The Regulation on Administrative Methods in Franchise Operations of Municipal Public Utilities*, May 2004. Other aspects of the “Priority to Public Transport” agenda, such as the role of bus priorities and bus rapid transit systems, will be dealt with in separate papers.

1.2 Why focus on institutional arrangements for the provision of bus services?

Before and following SCO46 and other relevant advice from national authorities (see Section 3 below) many cities in China are working to disengage municipal governments from urban bus operations and to introduce private capital into an industry that has been traditionally reliant on monopoly public operators. However, a World Bank review of current Chinese municipal practices conducted in the last year shows that cities are engaged in a variety of sub-optimal practices, with varying degrees of operational success. In many cases cities were not cognizant of current international and Chinese practices in the urban bus sector and were committing to suboptimal agreements. Specifically, though significant efforts had been made to obtain private capital for the erstwhile public sector bus company, and in some cases to “equitize” the company by selling shares to staff, corresponding steps to enhance the interests of the cities and the bus passengers it is intended to serve were not always taken. Competitive franchising was often replaced with long-term, sole-source contracting, which resulted in reduced value and quality of service to the city and the ridership.

This paper describes the experiences of other countries that have attempted to implement similar reforms, which may be considered relevant to China. The goal of this paper is to assist interested municipalities, the Ministry of Construction, and other relevant Chinese authorities to:

- Identify models of regulation and competition for the urban bus industry, based on the experience of Chinese and international practices, that are best suited for the current and projected future of the urban bus industry in China

¹ Beijing, Chongqing, Fushun, Fuzhou, Guangzhou, Guiyang, Jinan, Shenyang, Shenzhen, Tianjin, Urumqi, Wuhan, and Xi'an

- Provide guidance for municipalities that are considering restructuring their bus industries.

1.3 The relevance of international experience

Using a situation that is not dissimilar to China's (until recently) as a starting point, in which urban public transport (UPT) was predominantly supplied by state-owned enterprises with support from state and municipal budgets, many western countries began to find the budget burdens of public transport increasingly difficult to sustain. Hence, starting in the UK in the early 1980s, many governments have tried to find new modes of operation and sources of financing for their UPT systems. The public transport policy goals adumbrated in SCO46 in China; that is, the search for improved performance and new sources of off-budget finance associated with regulatory reform and franchising of new service suppliers, reflect those common in the early reforms in the Organization for Economic Co-operation and Development(OECD) countries. This reform has been most successful when it has gone beyond merely restructuring the ownership base of the state-owned enterprise (SOE) to focus on strategies to maintain the value of the main forms of assets; that is, the companies, the fixed assets, and the route franchises, while delivering good quality services at the best cost. These strategies typically need to include the following range of both physical and regulatory measures.

- Physical improvements in public transport infrastructure (which will increase the appeal of public transport)
- Competitive incentives for suppliers (which will reduce costs and increase operational performance)
- Fare and subsidy policies to focus assistance on those deemed most in need (which will increase the effectiveness of any provided subsidy)
- A stable and predictable commercial environment for suppliers (which will help attract private and foreign capital into the sector).

1.4 The meaning and significance of reform

In the rest of the paper we consider the applicability to China of experience reforming public transport in other parts of the world. The objectives of such reforms have usually included the following:

- To improve the welfare of passengers by providing the highest level of service possible given demand and monetary constraints
- To protect society at large by minimizing any environmental or safety hazards caused by public transport vehicles
- To minimize the fiscal burden on the city and provide the city with the best deal for the money
- To ensure that the city retains the ability to exercise strategic control over the development of public transport in support of its broader city development strategies (including the regulation of conflicts in demands for road space by private and public transport)
- To attract high-quality bus service suppliers by providing a stable regulatory and financial framework within which they can operate.

To achieve the above objectives it has been common practice to combine a strong public sector regulatory and service procurement function with a buoyant private sector service provision function competing for the right to supply services. This practice avoids any single individual supplier, whether public or private, gaining unregulated monopoly power. Monopolies create difficulty in benchmarking

to ensure that optimum service quality is being achieved, and leave the traveling public vulnerable to the monopoly supplier's potential failure to perform. With a single non-performing supplier it has usually been found to be difficult to enforce change without massive disruption to public service, which is why competition for franchises has been considered vitally important.

This kind of reform is not inconsistent with public sector supply subsidy as long as suppliers are forced to compete with each other to receive such support. In this sense, public transport reform is not an alternative to measures of financial support for public transport development but a necessary complement to them to ensure that any financial support offered benefits urban passengers and inhabitants instead of merely improving the profitability of suppliers.

1.5 Recent International Experience in Public Transport Reform

The first major objective for reform in public transport came with the development and implementation of a more freely competitive market in air transport. Although the most obvious example of this is the deregulation of the domestic air transport market in the United States (US) in 1981, similar developments were taking place in internal markets in Europe and eventually in the international air transport market. This liberalization gave rise, in all cases, to changes in route structures, fare levels and structures (including significant reduction in lower-level fares), and aircraft load factors; and, hence, in costs per passenger carried.

Greater commercialization was also introduced in the rail markets in the US and the United Kingdom (UK) from the 1980s forward. In the US, where the road transport alternative to rail transport is especially strong, the rail freight system was effectively deregulated, and only the long-distance passenger market was left in public hands. In the United Kingdom reform included the privatization of the rail infrastructure and the competitively tendered franchising of the right to supply transport services. Privatizing the track was not successful and has subsequently been revoked. But the concessioning of services remains. Outside of the OECD, the complete privatization or concessioning of rail systems to the private sector has become common. Though public sector passenger railways are still important, particularly in Eastern Europe, virtually all of the freight rail systems in Latin America and several in Africa have been privatized, and there have also been significant developments in the concessioning of urban passenger railways in Argentina.

The implementation of similar reforms in bus passenger transport followed soon after. The bus industry regulatory system was radically reformed in London in 1984 and in the rest of the UK in 1985. In London, reform involved introducing comprehensive competitive tendering of all services, whereas in the rest of the UK it took the form of freedom to provide services on a commercial basis supplemented by the requirement that all supplementary subsidized services should be put out to competitive tender.

The early experience of the UK was replicated in the first instance in the Scandinavian countries, though in the form of competitive tendering of franchises instead of free entry. This position has more recently been adopted by the European Union, which also addresses such matters as the size and duration of contracts, and the treatment of employees in cases where employers lose contracts.

Outside the OECD there is also a growing interest in competitively tendered franchises. In Latin America, where private operation of public transport services has for long been the norm, competitively tendered franchising is also becoming more common. In Brazil, where private companies have been for many years the main suppliers of urban transport services a law now requires them to be subject to competitive tendering. However, progress in implementing that law is slow.

Moreover, the development of effective mechanisms of competition has not always been easy as experience in Santiago, Chile shows (see Box 1).

Box1 Bus reform experience in Santiago, Chile.

Before 1979 the bus service in Santiago was operated by a rather small municipal company and a large number of private bus-owners, under the authority of local administrations. Entry to the market was very restricted. Central government controlled fares and subsidy costs were high.

In 1979 most of the restrictions on entry were abolished. Fares continued to be controlled by the state but were constantly increased under pressure from operators. In 1980 the municipal bus company was liquidated. In 1983 fare control was abolished so that carriers could establish any fare provided that it was indicated on a plate on the windshield of the bus. In 1989 the administrative control over the route network and the conditions of transport service was completely abolished and operators no longer needed even to apply for route permits. The role of the state was limited to the technical control of the vehicles and of the qualification of the drivers.

Such deregulation resulted in excessive quantity of buses, particularly in the city center, that caused congestion and aggravated the ecological situation. Therefore, since 1993 the bus routes in the center of Santiago have been distributed by bidding. The bids proposing the lowest fare and the largest bus capacity, won the tender. Unfortunately, there were many overlapping routes and no constraint was put on sub-franchising. The result was that although the quantity of service was very high, many small operators with a high incentive to fight for revenue had a high incentive to unsocial on the road behavior – including racing between stops.

In order to overcome these deficiencies the government has reformed the system to increase the size of the contracts and eliminate the perverse incentives of the existing system. The system is now organized into five sets of trunk services, and ten sets of area feeder services, all procured through competitive tendering. All competing companies have to be able to provide a fleet of vehicles adequate for the size of the contract.

This example shows that the undesirable consequences of a completely free market can be avoided through competitive tendering of franchises, but only if there is serious attention to the structure of the supplying companies and to adequate monitoring and enforcement of the contracts.

Source; K. M. Gwiiliam. ***Bus Franchising in Developing Countries: Some Recent World Bank Experience.*** Paper presented at the Eighth Conference on Ownership and regulation in Land transport, Rio, Brazil. September, 2003

Even some countries which till recently had a strong tradition of publicly provided urban services, such as the countries of the former Soviet Union, have started experimenting with competitively tendered franchises. Competitively tendered franchises have been introduced in Uzbekistan and the Kyrgyz Socialist Republic, in particular to mobilize and regulate new private suppliers who began to enter the market as the traditional state-owned bus companies declined. In the Russian Federation the Federal Ministry of Transport set up an Urban Transport Reform Center to advise the members of the Federation on what they considered appropriate ways of mobilizing private sector initiative.

The initial driver in most western reform efforts and, to a lesser extent, those in Latin America, was the growing burden of subsidized services on the public budget, which was largely attributed to the operational inefficiency of monopoly (usually state monopoly) enterprises. In some Latin American countries and in those of central Asia the main driver of reform was the need to enforce disciplined operation on new private sector suppliers of bus and minibus services.

2 Public Transport Reform in China

2.1 *The changing Chinese urban economy*

In the last decade of rapid economic growth both urbanization and rural-to-urban migration have continued at a very rapid pace in China. The features of that period that have strongly impacted urban transport include the following:

- Rapid motorization and increased congestion in the large cities
- Separation of workplace and homes, with increasing middle class suburbanization associated with high rates of employment growth in the central cities
- Functional and fiscal decentralization, which requires city governments to find their own solutions to local transport sector problems
- Diversification of the urban population, with an increasing proportion of the lower income “floating population” requiring transport service.

Taken together these structural features generate a demand for improved and differentiated public transport that is capable of providing service that is both basic and affordable for poor non-car-owning families and attractive to the more affluent, particularly for work and business trips between suburbs and city centers. Most urban planners believe that, despite increases in car ownership, the demand for public PT will also increase.

Faced with these trends, the Chinese government has outlined several important objectives concerning the development of the urban transport system, including the following:

- All families will eventually have access to a private automobile
- All families, but especially the poor, will have access to affordable, high-quality public transport service
- Public transport will be provided increasingly as a market driven service with limited burden on the public budget
- The quality of the urban environment, particularly its air quality, will improve.

Several Chinese cities, most notably Shanghai, have already taken positive steps to introduce public transport reforms to achieve these ends.

2.2 *The early history of public transport reform*

Until the mid-1980s traditional public bus operators held a steady 25 percent to– 35 percent share of trips in major Chinese cities. Input costs were regulated under the planned economy. Ridership was stable or growing slowly.

In the mid-1980s, after the beginning of the national economic reforms, the bus sector began losing shares to non-traditional operators and other modes of transportation. Increased public investment between 1985 and 1994 improved the bus network, and even temporarily increased mode share in some cities, such as Guangzhou and Hangzhou. More generally, public transport lost mode share due to the combined effects of increased motorization, higher bus operating costs, and greater traffic congestion. Shanghai and Shijiazhuang are examples of cities that encountered such trends.

Historically, China's UPT sector was dominated by state-owned monopoly operators, who provided regular bus services with simple fare structures. These SOEs exhibited labor-intensive operations, low-tech management, and simple operating methods, using planning targets instead of efficiency benchmarks for staff scheduling, capital planning, and operations.² Aside from fare revenue, municipal budgets were the only source of financing for public transport, and large subsidies were needed for both capital and operating expenses.

As part of a strategy to improve economic efficiency in ways compatible with the socialist market economic system the Chinese government required public utility enterprises, such as public transport, municipal works, and water supply, to commercialize their operations, thereby introducing a number of reforms.

2.2.1 Increasing labor efficiency

Reducing labor inefficiency and redundancy has been an important objective of the early reforms at the enterprise level. To this end the following measures were adopted:

- *Spinning off excess staff* to “tertiary enterprises” in the hope that it would generate supplemental income for unprofitable bus operations
- *Moving to a one-man operation*, which reduces labor costs, but given the lack of modern fare collection equipment, also reduces average collection speeds
- *Changing employment conditions* by recruiting staff on one-to-three year basis (in Urumqi); converting staff to suppliers of (mostly mini-bus) services under contract; or introducing skill and performance-based wage schemes (in Tianjin)
- *Reducing other variable cost items*, such as switching to lower fuel quality and deferring engine maintenance.

As a result of these actions, operating efficiencies are much improved. For example, staff to bus ratios were reduced from 10:1 to near or below 5:1 in some cities.

2.2.2 Service marketing and pricing

Commercialization of the enterprises also involved actions on pricing and marketing of services. These actions included:

- *Development of differentiated services*, including premium services and minibus services with matching fare structures.
- *Real fare increases*, which were introduced in some cities with only limited success because emerging competition from minibus and other premium services imposed a ceiling on sustainable fare increases.

² There appears to be relatively little data to link these structural characteristics to costs and performance, even though the government thought it necessary to introduce reforms to improve efficiency. It would be sensible for the Ministry of Construction to start monitoring some key operational and economic performance indicators across cities adopting different models of reform.

- *Abolition of reduced rate fares*, which was adopted as an alternative to general fare increases in some cities. For example, monthly passes, which allowed unlimited travel for a fixed monthly charge, were abandoned in Shanghai in 1995 in favor of traditional single journey ticketing.
- *Changes in fare structures*. Both flat fares and distance-based fares have been used, but no city appears to have used any zonal- or time-based fare system.
- *Smart cards*, which are being introduced in a number of cities.

2.2.3 Structural changes within the SOEs

The search for increased efficiency also required changes in internal structure of the enterprises. The reforms adopted have included the following:

- *Divisionalization of municipal SOEs* has been introduced in a number of cities, (led by Shanghai) to enable comparing the operating efficiency of the units.
- *Creation of second tier companies with independent legal entity status* (e.g., Tianjin). Sometimes this has been associated with the introduction of a system of differential payments to the staff of subsidiary companies based on company performance (e.g., Chengdu).
- *Introducing contractual relationships between subsidiaries and parent companies* with incentives for good performance (as in Chongqing).
- *Functional separation* has also occurred with separate companies established for maintenance and bus station operations (as in Guangzhou).
- *Subcontracting to private companies* and other arrangements through which private companies participate in supply. In Qingdao a subsidiary company has been established as an equity joint venture with public transport companies in Shenzhen, Hangzhou, and Nanning.

As a consequence of these policies, many municipal bus companies are now corporatized and operate in an increasingly commercial manner.

2.2.4 Opening market access

In a number of cities the municipal government has taken steps to open market access to new entrants, both private and public, domestic and foreign. The main ways in which this has occurred include the following:

- *Establishment of new public transport enterprises*. In recent years, foreign and domestic investment companies have established new public transport enterprises to compete in the emerging public transport market.
- *Operations contracted by private individuals*. Private contracting is common in growing small cities as well as in some large- and medium-sized cities on some more peripheral low volume lines, although it is starting to diminish again in larger cities.
- *Auctioning lines*. More recently, newly opened lines have been auctioned by the city government to competing suppliers as commodities.

2.3 The platform for further reform of urban public transport in China

The government of China has recently issued three policy documents that are directly relevant to the problems of further development of the urban transport sector. The first relates to the context in which public transport is supplied, and recommends that public transport should be given priority in urban transport development. The second relates specifically to the ways municipal public utilities operate, and recommends franchising municipal enterprises operations. The third specifies the means by which prioritization of public transport is to be implemented. All are critical to establishing a reform strategy for public transport.

2.3.1 The Opinion of the Ministry of Construction on the Priority Development of Urban Public Transport

This opinion emphasizes the importance of UPT to avoid traffic congestion and improving the urban living environment. It proposes a structured integration of transport modes in mega-cities, with rail services supplying the longer distance trunk services, and buses and trolleybuses serving as feeders and supplying shorter distance movement demands. The targets comprise set network density, maximum travel times, and UPT shares of the market.

In order to achieve these objectives the ministry opinion emphasizes the guiding role of urban planning, and requires the following:

- An *Urban Master Plan* that acts as the master plan for urban development
- A *Comprehensive Urban Transport Plan*, consistent with the Master Plan, which sets the strategy for transport and ensures the allocation of appropriate land resources for its implementation
- An *Urban Public Transport Plan* that defines the structure of urban road public transport services and facilities to achieve the objectives of the Comprehensive Urban Transport Plan
- A *Rail Transport Plan* for cities that plan to have rail services.

The municipal government in each city was required to conduct a comprehensive inspection of the formulation and implementation of these plans before the end of 2004. In terms of implementation, particular attention was given to the facilitating infrastructure, including depots, stops, public transport dedicated roads, and interchange hubs. This involves the development of a city-wide UPT regulation and standards regime that would include supervision and enforcement of public transport service standards. But it also addresses the problems of financing and requires the establishment of a standardized fiscal subsidy system. Finally, it requires collaboration between competent construction authorities and the public finance and pricing authorities in each city, and specifies that any policy-related losses caused by price restrictions should be the subject of direct subsidy.

At the institutional level the ministry opinion requires further efforts to break up monopolies, open up the urban transport market, and introduce a regime of UPT franchises. This will involve a deepening of the reform of the state-owned public transport enterprises so that enterprises can become market players responsible for their own business operations and development.

2.3.2 The Regulation on Administrative Methods in Franchise Operations of Municipal Public Utilities

This new regulation, effective May 1, 2004, requires that the franchising of municipal public utilities comply with principles of openness, fairness, equity, and priority of public interest. It applies to all municipal public utility sectors, including public transport, which by law are subject to franchise operations. Although in principle it *could* apply to UPT, it will not unless subsequently required by a relevant law.

The regulation deals with the following procedures to satisfy these requirements:

- Qualification for an enterprise to enter the public utilities market (Article 7)
- Procedures for selection (Article 8)
- Content of a franchise agreement (Article 9)
- Rights and responsibilities of the authority (Articles 10 and 12) and the enterprise awarded the franchise (Article 11)
- Duration of the contract (Article 12) and procedures for its amendment or termination (Articles 14-19, 23)
- Price regulation (Article 22)
- Avoidance of illegal behavior or breach of agreement (Articles 27-30).

Although the regulation appears to cover most of the major issues that need to be addressed in franchising it does not attempt to reach the level of specification needed to be applied directly as a franchising system to the transport sector.

2.3.3 State Council Opinion 46 on Urban Transport Priority Development, October 2005

SCO46 on urban priority transport was intended to provide extensive guidance on measures to prioritize public transport. Among the wide range of measures suggested were the following:

- Improving understanding of public transport
- Making full use of planning and control, including compiling a scientific public transport plan that guarantees the organization and implementation of plan compilation
- Improving transport infrastructure
- Optimizing the structure of public transport operation
- Guaranteeing priority use of the road for public transport
- Positively developing stable transport sector reform
- Enhancing the support of policy by providing financial support, standardizing subsidy systems, and adjusting passenger tariffs
- Enhancing organization and leadership.

Much of the opinion relates to the allocation of resources, including those for finance, land, and road space. But it does contain some very general prescriptions about the reform of sector regulation, and concentrates on the following four main issues:

- 1) *Restructuring the investment and financing mechanisms.* This includes measures to encourage domestic and foreign non-state capital to participate in the construction and operation of public transport through joint ventures, co-operatives, or trusts.
- 2) *Promoting the franchise system.* This involves opening the market to multiple suppliers while avoiding the unconditional and reckless selling of facilities and route operating rights. Individual routes will be granted as monopoly operations to selected suppliers subject to withdrawal of those rights if performance is inadequate.
- 3) *Strengthening market regulation.* This requires improved administrative regulation of the operation and service quality of public transport supply enterprises.
- 4) *Upgrading the service level.* This requires improvements in route planning, vehicle quality, and operations and in terminal operations.

The remainder of this paper considers, first, recent Chinese experience in these areas and, second, international experience in these types of transport reform and its relevance to China's future.

2.4 Recent Reform Developments in Chinese cities

The initial approaches to reform have been studied in 12 cities in China.³ This study found that municipal progress varied considerably on the above four major planks of the recommended strategy for positively and stably developing sector reform.

2.4.1 Restructuring the investment and financing mechanisms

This is where the energy of the municipalities has been concentrated. Of the 12 Chinese cities studied all have either implemented changes in the ownership of their SOEs or have active plans to do so. The main motivation for this appears to have been that of obtaining new sources of capital finance outside the city budget. In most cases this is achieved through the creation of a joint stock company, or joint venture, between the government and a commercial company, with the initial investment remaining as capital within the company. In many cases the investors are SOEs from other provinces, although in some cases foreign investors (e.g., from Singapore) are involved. For the most part, however, the deals have been structured to avoid any change of effective management control. In only two cases, Fuzhou and Shenyang, was an entity other than the municipality allowed to be the majority shareholder, although the deals under consideration in Urumqi and Wuhan might involve a transfer more complete transfer of ownership. Shenyang appears to have made the most dramatic reforms. All of the operating assets have been transferred to joint ventures with four main foreign investors; the SOE retains the terminal facilities and the garaging facilities, which it leases out to the private operators.

2.4.2 Promoting franchising

Several of the 12 cities have combined the creation of a joint stock company with the award of long-term franchises to new companies. Very lengthy franchises of up to 30 years have been proposed in Fuzhou, Shenzhen, and Xi'an. If implemented, these partnerships may close the markets for a

³ This section is entirely based on prior work in association with the Chinese cities.

generation, making further reform impossible. That is clearly not the intention of SCO46, which advocates other developments that will be pre-empted by the deals currently under development. None of the 12 cities has implemented an open market approach to the provision of transport services. Nor have they developed transparent means of route awards through which operators of all forms of ownership might gain operating rights. Even in cities like Fuzhou, which previously permitted diverse forms of private participation, attempts are being made to merge private operators into a few small companies in a semi-closed market. Guangzhou has started putting the right to supply service on new routes out to competitive tender, but does not appear to intend to extend competition to existing routes.

2.4.3 Strengthening market regulation

In principle, the SOE bus operating companies were formal units of the municipality whose assets were owned by the State Property Bureau and which were regulated by the PT Management Office of the Construction or Communications Bureau (Commission). In practice, the PT regulatory units of a given municipality do not appear to have the capacity to function as transport authorities, and the SOEs have been the real executive arm of government for urban passenger transport (UPT), managing ticket and smartcard schemes, dispatching systems, and doing route planning as well as serving as the sole operator. Whereas Guangzhou Municipality has adopted a more positive stance in its tendering of new routes, it still appears to lack the capabilities either for customer-related services or for integration of private and public sector operations. One of the problems with reforming the financing of public transport through the creation of joint stock companies has been that the planning and regulatory skills that exist were within the companies. Consequently, the temptation has been to give new companies very long-term franchises and substantial freedom to continue developing the system as an effective monopoly. This closely resembles the arrangements adopted until recently in many French cities. It is worth noting that in France this gave rise to concern both about efficiency and corruption, and led to a new law requiring more frequent and effective competition for area wide franchises.

2.4.4 Upgrading service level

The main approaches to upgrading service levels in the 12 cities are through the progressive elimination of minibuses and the concentration of large bus activities into a few big companies, by the amalgamation of existing small units where necessary. Neither private sector involvement nor competition for franchises appears to be viewed as a particularly relevant characteristic in this respect.

2.5 *The different viewpoints of the state council and the municipalities*

Clearly, a considerable gulf exists between the vision of developing a competitive commercial structure embodied in SCO46 and the much more conservative, company centered, view of many municipal administrations. In many cases, the municipal administrations do see the need for off-budget sources of finance and, hence, for new structural forms of company organization. But they do not appear to see any alternative to a structure that bears considerable resemblance to the old situation in which the major operator was also the planner and regulator. Franchising is interpreted as a transfer of responsibility for finance and development to companies (which in many cases remain dominated by municipal ownership), and not as a vehicle for the introduction of competition and the pressures it exerts on all facets of an enterprise. This is exemplified in a number of specific beliefs (or doubts) which traditionally minded municipalities might hold about the elements of the reform alternatives mentioned in SCO46, including the following:

- Fares must be controlled by the public sector for social reasons
- Only publicly owned companies can provide social services
- Only monopolies can ensure disciplined operation
- Only large scale companies can be technically efficient
- Scarcity of terminal and garage infrastructure, and its concentration in the SOEs, limits the scope for competition.

Particularly where the introduction of foreign capital is involved the municipalities have been forced to recognize that there must be some degree of security for the investors as well as some scope for profit from the investments. Long-term, non-competed franchises with the transfer of all rights traditionally enjoyed by the SOEs offer both, and, therefore, tend to be the starting point for bilateral discussions between municipalities and private investors. Hence, what appear to be emerging in a number of cities are deals that are actually anti-competitive and, if implemented, will close the market to reform for many years. These compromises raise a number of other goals that appear to be in conflict with the recommendations of SCO46, including the following:

- Private sector participation in finance requires commitment to very long- term contracts.
- Transfer of existing rights is desirable without any competitive tendering.
- Tendering must be limited, at most, to new routes only.

The apparent inconsistency between state council and municipality views, and other concerns that are now being expressed in some Chinese cities, reflect problems that have also been confronted in many western countries considering reforms. The western responses to those concerns and their relevant experience trying to meet the concerns are the subjects of the rest of this paper. Each of the next four sections (sections 5-8) identifies the main concerns linked to the four goals of the strategy outlined in SCO46.

3 Restructuring the investment and financing mechanisms

As mentioned earlier, most of the recent reform effort has focused on the search for new sources of investment financing for the urban transport sector, often in ways that appear to be inconsistent with the achievement of the other objectives. In particular, there is a tendency toward long-term monopoly concessions, or franchises, granted for operating rights without any competition. This may pre-empt the introduction of a freer market and immunize the selected enterprise against any competitive pressure to increase its efficiency. Some municipalities are well aware, and somewhat wary, of this and seek to avoid such commitments to an independent entity. Hence, they often opt for joint ventures in which the municipality remains the dominant shareholder. This raises a series of questions about the structure of the sector and the relationship of that structure to broader sector reform objectives.

3.1 *Can new sources of finance be obtained without building equity in SOEs?*

The first question is whether direct private involvement in service supply is necessary to be able to raise financial capital off-budget. Strictly speaking, the answer is no. Many public agencies, in China and elsewhere, are able to raise funds on the bond market as long as there is an assured source of revenue against which the bonds can be issued. In principle, it would be possible to achieve this in the urban transport industry through some combination of monopoly powers of operation and government guarantees of fare adjustments or gross revenue levels. But this would pre-empt the introduction of

further reforms to introduce competition into the market, which would have detrimental effects on financial markets. Many European countries are now of the opinion that this is not the most economical way to secure development of the industry, and are turning to competition between private operators in a market that remains subject to strong public sector regulation. Competitive tendering of the right to supply a service for a limited period achieves this.

3.2 Can supply of services become more commercial without competition?

The minimal change that can be made to make operations more commercial is to “corporatize” the public sector supplier and put it at arms length from the political process through the introduction of performance agreements between the political agency and the corporatized supply agency. Typically, the nature of such agreements is that the operating unit commits itself to meet certain output and productivity targets in exchange for an annual revenue payment.

The main requirements for a performance agreement are as follows:

- Output definition
- Performance standards/monitoring
- Payment conditions
- Penalties
- Complaints procedures
- Statement of progression over period of contract.

Although there are some successes (e.g. in Oslo, Norway), the World Bank’s general experience with performance agreements for state-owned enterprises is not very satisfactory in a number of respects.⁴ Governments often fail to honor their payment obligations and, consequently, the operating unit, starved of cash, fails to meet its output or quality targets. Moreover, because both parties to the agreement have the same ownership and control, the agreement typically lacks teeth. Where financial penalties are imposed on the operator they are more likely to hurt the passengers or budget instead of the managers and employees of the enterprise. It is only when the enterprise is fully commercialized and subject to the threat of termination through bankruptcy that the performance agreement is likely to bite. Hence, even if it is the preference of the authority that there should be a single supplier, it is desirable for that supplier to be independent of the controlling authority and procured through a transparent competitive process.

3.3 Can competition be introduced without change of ownership?

If it is decided not to privatize an existing publicly owned enterprise, particularly where the enterprise initially has a monopoly of services in the city, it still may be possible to create an institutional basis for competition. This might take the form of corporatization of the parastatal into a number of separate (preferably, legally separate) profit centers or companies, and to separate them from any ancillary activities in which a monopoly remains (e.g., terminals). The first stage of London transport reform took this form, and it was the approach adopted in the early reforms in Shanghai. (see Box 2)

The limitation to this approach is that the scope for competitive pressure may be limited by legal constraints on entry to the competition. For this reason, therefore, corporatization of the state

⁴ Nellis, J. and M. Shirley, *Bureaucrats in Business*, World Bank, 1996.

enterprise was followed in London by opening franchise competitions to non-state enterprises as well as by the ultimate privatization of the state enterprises themselves. Furthermore, in order to get the greatest competitive impact, any legal barriers to establishing private enterprises in the sector should be removed and positive action taken to foster creation of private operating units capable of participating in competition for route franchises, perhaps by creating associations of smaller private operators.

Box 2 Restructuring a parastatal for commercialization

Restructuring a previously monolithic state enterprise to engage in a more commercial manner involves the following three requirements:

- Existing operating divisions must be reformed or new divisions created within the organization to operate as independent profit centers. This means that all of the costs they impose on the organization must be put into their accounts and all of the revenues they generate must be credited to their account.
- Each units' accounts must be comprehensively commercialized. In particular, all capital charges incurred on behalf of the unit, including public budget costs of vehicle provision or replacement, shall be booked to the unit benefiting from them.
- Each division must be given an objective of covering all costs from revenue, including contracts to provide subsidized services awarded in competitive tenders, and must not be granted deficit funding. Any losses incurred should be capitalized in the units' books, and the service charge for them made against the unit.

3.4 *Is foreign capital desirable?*

Some Chinese cities that have already attracted injections of capital from companies outside China (although these have come almost exclusively from expatriate Chinese sources) Others have concentrated on ensuring that foreign capital is mobilized through joint ventures in which the municipality retains the dominant position. This approach contrasts with the experience in the European franchised markets where little attempt is made to constrain the entry of foreign companies into the competition. For example, French companies have a large share on the British bus market, and British companies had substantial involvement in the franchised markets in the Scandinavian countries. This lack of concern about nationality has its basis in the fact that foreign enterprises operate essentially as contractors to the municipality, which continues to control the politically and socially important variables (e.g., which services should be provided, determining fares rates). Hence, there appears to be a close link between the nature of the regulatory regime within which the foreign enterprise is working and the extent of the regime's fears of non-national management control. The most serious danger facing Chinese cities at the moment is that they will make too great concessions of long-term commercial control to foreign companies in order to be able to quickly attract off-budget finance.

3.5 *Should small-scale investors be encouraged or discouraged?*

The fifth question has to do with liberalization of entry to the urban bus sector, which has attracted small investors willing to purchase and operate a single, usually small, vehicle, in many countries. This has usually resulted in chaotic supply conditions with anti-social on-the-road operating practices, as was the case with Chile in the late 1980s, Peru and Colombia in the early 1990s, and many African countries to this day. In China, this phenomenon has been limited thus far (some municipalities have had problems with mini-buses) but municipalities need to guard against it.

Even where the total capacity has been limited and the franchises allocated through competitive tendering the results have often been very unsatisfactory because of the continued fragmentation of operations. This was the situation in Santiago, Chile, from the late 1990s until just over a year ago. Although the individual entrepreneur has made an important contribution in meeting public needs in countries where public sector financing has collapsed (including several countries of the former Soviet Union and most sub-Saharan African countries) unregulated individual operation has usually failed to provide the quality and reliability of service Chinese cities are likely to demand. Self-regulation by associations has improved discipline to some extent, but often through uneconomic working practices and procedures that are not conducive to consumer welfare.⁵

In some cases it has been possible to reconcile small-scale ownership with franchising through the creation of operator associations. Such associations were common and dominated the bus industry in Buenos Aires, Argentina, during the 1970s and 1980s, and then gradually developed into successful formal commercial companies. Franchising associations of private operators is currently being developed in Uzbekistan and the Kyrgyz Republic as a means of mobilizing private capital and initiative in what has been a declining sector. But in these countries, as in many African countries, small operators are unwilling to take the risks associated with the purchase of large-size vehicles and mostly remain in the minibus sector, where they continue to dominate the market in sub-Saharan and South Africa. They have also developed into an important (but often illegal competitor) for traditional large bus services in many Brazilian cities.

International experience with small vehicles and entrepreneurs thus suggests some interesting lessons for Chinese cities. The first lesson is that the small-scale sector can generate substantial funds for vehicles, but tends to only gravitate toward financing small vehicles. The second lesson is that fragmentation of ownership tends to be associated with undisciplined operations. Hence, it is probably advisable to set a minimum on the size of companies permitted to supply service in any particular route. This minimum may be quite small where the route itself requires only a small number of vehicles. Franchising associations may work reasonably well as long as public supervision of performance is adequate.

3.6 *Is employee ownership desirable or not?*

The sixth question focuses on the involvement of employees in the ownership of public transport companies and, hence, in the efficiency and profitability of the enterprise, which may promote positive employee incentives. The main danger is that employees will see maintaining a monopoly position and avoiding competitive reform as the best ways of ensuring their profitability. Hence, they will have additional vested interest in thwarting the introduction of competition. It is interesting to note that in the process of liberalizing the UK bus industry at least one of the major municipally owned companies, Yorkshire Rider, was converted into a commercial company with majority employee ownership. However, this arrangement did not last long because employees decided to capitalize on their ownership by selling out to one of the major private sector bus companies. The danger in China is that employees may be given part ownership on a low valuation and, as a result, might be in a position to make a handsome windfall profit by selling their shares.

⁵ For more detail on this issue see K.M. Gwilliam “International Experiences with Low Capacity Vehicles in Mass Transit Systems” Paper presented to the Annual Conference of the South African Bus Owners Association, Pretoria, February, 2006.

4 Promoting franchising

A franchise is a right to provide service that is given by the original possessor of the right (in this case, the city government) to a third party either on negotiated terms or at a price determined by competitive bidding for the franchise.

4.1 Why is competition important in a franchised sector?

The importance of the competitively tendered franchise approach that the Chinese government has generally recommended for the supply of public utilities is that it offers a clear institutional means within which all of the above problems associated with unregulated private supply of public transport can be overcome.

4.1.1 Reducing costs

The costs of supply tend to be reduced in competitively tendered systems for the following three reasons:

- Lower cost new entrants are able to exercise a downward pressure on overall costs.
- Incumbent suppliers are forced to reduce costs to maintain their market position in the face of competition.
- Faced with the costs of their interventions public authorities tend to be more realistic in imposing constraints on operators. For example, the lower the fares that the authority imposes, the lower will be the sum that operators might be willing to pay for the franchise. If fares are set very low then public authorities may find that no operator is willing to provide the desired service without a subsidy.

In Western Europe competitive tendering has reduced costs per vehicle kilometer by between 20 percent and 40 percent (in Stockholm and London, respectively). Although those large initial savings may not necessarily be maintained over time, the evidence is that the introduction of competition produces a substantial downward shift of costs.

4.1.2 Maintaining orderly operations

Unlike situations in which entry into the market is completely liberalized, the conduct of individual operators remains under the control of the public authorities. Such undesirable operational behavior as racing for passengers or failing to maintain scheduled service can be controlled under franchising arrangements but not in a totally free market. In a number of countries, such as Uzbekistan, the introduction of franchising has been the means through which irregularly and chaotically operating informal sector operators can be organized to maintain orderly operations. Routing and any adverse congestion or environmental impacts of competition, can be handled within franchising systems. Similarly, public authorities can control fare levels and structures if they wish.

4.1.3 Managing cross-subsidy

In traditional public sector monopoly systems it is often assumed that socially necessary services can be maintained by internal cross-subsidy, with less remunerative routes being supported by surpluses from more profitable services. Such cross-subsidy is usually largely unmanaged. Competitive tendering of franchises allows authorities to determine much more explicitly the degree and direction of cross-subsidy to implement.

4.1.4 Creating new sources of off-budget finance

In most of the Western European cities where public transport services are competitively tendered, private sector suppliers finance the vehicles as well as the garage and maintenance facilities. Therefore, the bids that suppliers make include the coverage of the capital servicing costs. This means that all capital charges are off-budget as far as the public authorities are concerned. However, for this to be achieved it is necessary that the contracts are sufficiently long-term and secure to make private financing attractive. In the UK contracts were initially for three years, but most bus service franchises are for a minimum of five years (the proposed European Union (EU) minimum contract length, which is often extendable without re-bidding to a total period of seven or eight years). This is widely regarded as a reasonable balance between the need to provide sufficient security to the franchise holder to finance vehicles and the danger that competitive pressure will be lost through longer franchise periods.

4.1.5 Introducing realism into pricing and service strategies

The bid that a private supplier is willing to make for a franchise will critically depend on the fare and service levels specified. The lower the fares or the higher the quantity and quality of service that is required the more a supplier will require for providing the service. Hence, because all services are provided under contracts with any subsidies clearly specified at the time of contracting public authorities receive clear evidence in advance of the costs of the service and fare decisions they make. Unless the combination of services and fares required by the authorities are consistent with the available budget they will be unable to find suppliers. Competitively tendered franchising thus forces a degree of realism and responsibility on the actions of public authorities that has traditionally been lacking in administratively controlled systems.

Achieving the above benefits requires a very well-designed and effectively monitored and administered franchising process for which special skills are required. The contracts must be complete, unambiguous, and immune to arbitrary revision by the public authorities. In particular, provisions must be made for the adjustment of fares or contract payments according to a pre-set formula contained in the contract. Imposing a government policy of keeping fare levels fixed for long periods irrespective of the general rate of cost inflation, as has been the case in many Chinese cities, will make it difficult to attract private suppliers unless the contracts compensate them for cost increases. Indeed the adoption of such policies is what ultimately destroyed the formal public transport sectors in many African and central Asian countries.

4.2 What type of franchising system is appropriate for China?

In practice, there is a very wide range of different variants of competitively tendered franchising systems being used in different parts of the world. The main distinction that is usually made is between *gross cost* and *net cost* franchises. This section examines the main ways in which they differ and comments on the appropriateness of the variants for China's situation.

4.2.1 Gross cost contracts

In *gross cost* franchises all revenue accrues to the government and the contracts are usually extended on the basis of the least total cost supplier. Franchisees carry cost (production) risk but no revenue (commercial) risk or the risk to secure revenue. This form of franchise is consistent with any size of contract package (including a system-wide franchise), any fare scheme (because revenue accrues to the franchiser), and with any requirement to integrate either services or fares with other modes such as metro or suburban railways. Gross cost contracting has shown itself capable of generating substantial

competition and greatly reducing operational costs. However, after a certain point the amount of competition diminishes as the size of the package increases. The limitation is that the operator has little incentive either to generate patronage or revenue. There are several requirements for tendered gross cost service franchising to work, as follows:

- *The industry structure* needs to be prepared so that there are a number of potential bidders. Where the initial situation is that of a publicly owned monopoly, it will be necessary either to phase in the introduction of competition so small operators can establish a foothold or to restructure the public enterprise as a number of independent competing companies. This can often be done by separating them on a regional or garage basis, as in London. Within the former Soviet Union it was common for there to be several different public sector enterprises providing service within one city, though not generally in competition with each other.
- *An efficient way of securing revenues* must be devised. This is necessary because the contract involves the collection of fares by the operator to pass on to the franchising authority. This may involve including in the contract an obligation to use a selected method of secure revenue collection and recording. In the case of London, contracts require operators to be equipped with a specified type of ticketing equipment provided by the authority.
- *Performance must be carefully monitored* to ensure that operators provide all the services for which they have been contracted. This implies that the franchising authority will need to establish monitoring staff independent of, and separate from, the dispatching and inspection arrangements of the franchisee.
- *Collusion in bidding* must be made illegal and controlled, as in all tendered contracting systems. While collusion may be difficult to prove, steps can be taken in the design of contract lots to make it less attractive to potential competitors. For example, the inclusion, within a single tender lot of services previously provided by different suppliers makes it less easy for suppliers to pursue a tacit policy of avoiding competition when tendering is introduced by only making bids for services that they were previously providing. The encouragement of new competitors from outside the existing system also makes collusion between existing suppliers more difficult to pursue successfully.

It should be noted that although the gross cost tendering system involves the authority making payments to operators the authority is also receiving revenues. Thus, as long as the revenue collection and transfer system is secure there is no reason why the net cost to the franchising authority should be any greater in the case of a gross cost than a net cost contract system.

4.2.2 Net cost contracts

In *net cost* franchises the franchisee keeps all the revenues. The contract is offered to the most attractive bidder, and can be either positive or negative (i.e., payments to the government or by the government). The franchisee carries a revenue as well as cost risk. Net cost franchises can be either *positive price contracts*, in which a company pays the municipality or its agent transport authority for concession rights, or *negative price contracts*, in which the company is paid for the services it provides under the agreement. A variant on the net cost franchise is when the operator keeps all the revenue and the franchise is awarded to provide the specified service at the lowest fare. Net cost contracts can sometimes include a considerable amount of freedom in the definition of service. For example, in the franchising of feeder services proposed for Santiago, Chile, the payment is made on a per passenger basis and the operators can structure their network as they think best subject only to some general limits on the minimum density and frequency of service allowed in the area.

In practice, even profitable net cost contracts will often include unprofitable elements (e.g., Sundays, late buses), or profits may be maximized by reducing services (one less bus during peak hours). Consequently, monitoring requirements are little different to those for gross cost. The further danger of net cost contracts is that the increased incentive to generate traffic is a high incentive to engage in predatory practices against operators on parallel or overlapping routes. Predatory practices may be physical (such as racing to pick up passengers ahead of a competitor) or commercial (such as cutting prices to drive out a competitor, and then raising them again when competition has been eliminated). It is also much more difficult to maintain multi-operator, multi-modal ticketing since this would involve inter-operator revenue transfers. Even the allocation of compensation for reduced fares (such as those for pensioners and schoolchildren) is difficult because it requires information on who carries the passengers.

Because the franchisee carries both the cost and revenue risk evidence in the UK has suggested that net cost franchises attract fewer bidders, and especially fewer small bidders, than gross cost franchises. Consequently, the net cost to the franchising authority may actually be higher with net cost franchises than with gross cost franchises for a given service specification. However, It should be noted that enforcing fare payment is not a problem in the United Kingdom, and operators are directly compensated for carrying reduced fare or fare- exempt passengers. In the context of introducing franchising in an entirely new situation net cost contracts have the added disadvantage that the combination of perceived revenue and political risk may deter banks and other sources of funding from financing vehicles. For example, it was very difficult for operators to obtain bank finance for large buses when competitive tendering was introduced in Uzbekistan and the Kyrgyz Republic.

Net cost contracting may seem attractive because it does not necessarily involve the authority making any direct payments to operators and, hence, seems much simpler. But that appearance is somewhat misleading. If the authority wishes to cross-subsidize unprofitable routes from profitable ones it will have to either have some negative as well as positive price contracts or be able to package profitable and unprofitable routes together in a way that leaves the cross-subsidy to the company account. In that case, of course, it will also be necessary to monitor the performance of the company especially carefully on the unprofitable routes to ensure that the contract service levels are being provided.

4.2.3 Hybrid (mixed) arrangements

There are several hybrid market form options, which have been adopted in some countries. These include the following:

- *Mixing free entry and tendered franchises.* It is possible to combine free entry for any supplier willing to provide a service on a purely commercial basis, with tendering for the right to supply service on selected “socially necessary” but loss-making routes. Direct compensation can also be paid to both commercial and franchised suppliers for carrying passengers awarded free travel or discounted fares under other government regulations. This gives potential for on-the-road competition while, at the same time, providing for the socially necessary but loss-making services. This is the system that has prevailed in the United Kingdom outside London since 1985. However, it is an essential characteristic of this arrangement that the public authority controls neither the fares nor service structure for the bulk of services.
- *Benchmark competition.* In Oslo, Norway, benchmarks are set for the public sector supplier, with the threat that the services will be put out to competitive tender if the required standards are not met. This has had the effect of putting competitive pressure on the incumbent public sector supplier.

- *Market segregation.* There is also a potential for using different approaches for different markets (e.g., door-to-door services for the handicapped are provided by the voluntary sector without tendering in London, and premium express routes are left to the free market, whereas local urban services are franchised in many countries).
- *Tendered subcontracting.* One mixed system is for the public sector operator to subcontract elements of its operation that do not fit its mode of working, e.g., small buses, door-to-door services. In Bangkok, Thailand, most of the basic low price, non-air-conditioned services are subcontracted to the private sector. In Budapest, Hungary, the dominant public operator is required to subcontract some services to provide opportunities to smaller operators. The weakness of the arrangement in both these cases is that competition is limited to the part of the service that is most convenient for the dominant operator, and the competitive pressure is weak.
- *Gross cost contracts with patronage incentives* seek to encourage commercial initiatives to generate more passengers by giving bonuses to operators in gross cost contracts for increasing the number of patrons. This form is particularly appropriate where one of the primary objectives of the franchising system is to develop a system that will attract patronage away from private automobiles. But it can also increase the gross revenues for the authority and reduce the residual cost for the authority in franchising. These types of franchises are being developed in Copenhagen, Denmark, and elsewhere. The main weakness of this approach is that where the authority wishes to specify the level and quality of service very closely there may not be enough scope for operator initiative to increase patronage to justify the extra complexity of the contracting and monitoring arrangements.
- *Lowest fare* contracts are one way of avoiding any transfer of money between the authority and the franchisee by allowing the franchisee to keep all of the revenue, but making sure that the passenger gets the benefits of competition by awarding the franchise to the bidder offering the lowest fares. This is simple where a flat fare scheme is in place, but is more difficult to adjudicate where bidders offer substantially differing fare structures. In those circumstances the adjudicator must develop procedures for normalizing of differences in fare structures. This type of system has been used in Santiago, Chile, and in franchising minibus services in secondary cities in Uzbekistan. It is particularly appropriate where operators are accustomed to keeping the revenue they collect and there is no budget for service subsidy, or where authorities have difficulty controlling revenue collection but feel that more sophisticated revenue collection systems would be uneconomic.
- *Quality incentive* contracts are used in some cases to incorporate comfort and environmental considerations along with economic considerations in the franchising procedure. Santiago, Chile, was one of the first cities to use this kind of franchise contract. It has subsequently been used in cities in several industrialized countries, including the United Kingdom, New Zealand, and Norway. When the cost of procuring a higher quality service is very small, it would appear unrealistic for the tendering authority to ignore the added benefits. But potential private sector bidders will tend to suspect the use of multiple, non-quantitative criteria adjudicated by traditional government administrators as arbitrary and weighted in favor of the former public sector operator. Thus, the important requirement of such systems is that the criteria used are transparent and, inasmuch as possible, quantitative.

Experience in other countries suggests that it is probably best to start with relatively simple competitively tendered franchising systems which can be easily understood by bus operators and easily administered by municipal officials. For very large cities which have rail metros or suburban rail services with which it is desired to offer an integrated and co-ordinated service, gross cost franchising is most appropriate. For medium size cities with only bus services, and no previous

experience of competitively tendered franchising, net cost systems may be easiest to introduce. For suburban or rural services free entry may be the most appropriate competitive form, supplemented where necessary by tendered contract services for unremunerative activities.

4.3 Are very long-term franchises really necessary to get stable commitment?

The duration of the contracts needs to be clearly specified. Franchisees almost invariably will argue for long contracts on the grounds that only with a long contract do they have adequate incentive to build up the business and purchase or replace long-lived assets. Public authorities will typically prefer shorter contracts because of the extra flexibility this gives them, and because of the greater competitive pressure that they believe to be attached to re-tendering. Clearly a balance must be struck.

For a concession or franchise to be shorter than the economic life of the assets, the assets must be divisible, versatile, and have viable alternate uses. If a government regularly awards contracts for bus franchises and stagger its awards to allow each company to bid for new contracts on a regular basis, companies know that once one agreement ends, they may bid for others and can therefore re-employ the asset. Bus franchising durations of as little as three years have worked perfectly satisfactorily in the UK, though the minimum suggested by the EU is now five years. This is the length being advised in the introduction of competitive tendering of routes in Hanoi and Ho Chi Minh City, Vietnam. A government may also offer franchisees the opportunity to renew an agreement, since re-tendering itself incurs costs. Again a balance has to be struck between the short-term advantage of cost avoidance with the longer term reduction in competitive pressure if fewer franchises are available to tender bids.

If the contract is longer, there is a need to build in some flexibility, (e.g., a mid-term revision) with the possibility to make some changes in routes, prices, etc., which may give rise to troublesome negotiations.

4.4 Should “grandfather rights” be honored?

Most countries that have decided to introduce a more liberal, competitive regime have faced the problem of an incumbent operator who claims either the legal or moral rights to solely continue operating his present services in the future. If the system is growing very rapidly, it may be possible to accommodate this demand without critically impeding reform. But serious problems can result from accepting a general “grandfathering” of historic operating rights. It is usually the case that such rights include those to provide some well-demanded services, the profits from which can be used to cross-subsidize bids for any new routes put out for tender. Hence, the monopoly will be maintained (with the possibility that by deterring new competitors the incumbent can make even more self-favorable bids than the existing terms). It is therefore important to assert that operating rights on a given route are an asset that is held by the public sector and awarded to contractors for a fixed period. For that period it can then be treated as a company asset for the purpose of raising capital—based on the income and profit stream it will generate.

For the same reasons it is generally desirable that a strategy for competitively tendering franchises should apply to all routes. At the very most it may be sensible to take a reform in two steps: first, by putting all services on a contractual basis, some of which may be initially negotiated with the incumbent operator and, second, by introducing a phased program of putting all contracts out for tender. This approach worked very well in London in assisting the state-owned enterprise in adapting over a period of time to the new demands that the competitive situation imposed on it. Eventually, it was so successful that all of the SOEs could be privatized.

4.5 How should existing employees be treated?

One common source of resistance to the introduction of competitively tendered franchising is the fear of the loss of employment. To meet this objection, EU regulations now require that any public service provision transferred between providers (public or private) must provide employment protection, and staff can insist on transferring with the work on their existing terms and conditions. This helps to avoid disruptions in the labor market where large deals are at stake, and may not affect bidders too much where national labor agreements are enforcing uniformity of conditions among employers. But it substantially reduces the flexibility of bidders, and is much less appropriate in markets where the deals are smaller and the labor market freer. For example, experience in the UK showed that the liberalization of the market did not reduce total employment in the sector, although it did erode some of the advantages that employees of municipal companies enjoyed over private company employees. In that case a company that was forced to make overstaff was obliged to pay compensation on the usual legal basis. These considerations suggest that the problems of labor market adjustment are much more easily handled where tender packages are relatively small (e.g., route-based) and where there are frequent tender competitions.

4.6 How big should franchise lots be?

Whichever form of contracting is used, an individual franchise may relate to the following:

- The whole system in a city
- Specific areas of a city
- Particular route packages
- Individual routes
- Individual vehicles (e.g., in Santiago, Chile, where the vehicles are largely owned by individuals who are sub-franchised by the route franchise holder to operate on his behalf).

The size of the package, in combination with the duration of contracts, can affect the number of bidders and, hence, the effectiveness of competition in the following two ways:

- Smaller packages will tend to attract smaller bidders, particularly new entrants. Experience in the UK has shown that lower contract prices have been achieved when there are more and smaller bidders.
- Smaller packages allow a more regular flow of contracts to be tendered. This will somewhat reduce the risks for companies and encourage them to own the necessary assets to compete since they will know that if they lose one contract there will be others in the future.

Thus, the critical objectives in designing packages are to stimulate competition and deter collusion. This usually results in the most common minimum size of package being the individual route. However, if the intention is to attract bids from large operators from outside the city instead of the existing fragmented private sector it may be worth considering assembling some packages as large as a depot with a minimum of 200 buses. Where this is done it is important to ensure that the deal does not coincide with the domain of a current operator, since this may be a deterrent to anyone except the bidding incumbent.

In more sophisticated systems, such as London and Copenhagen, it is permissible to put in consolidated bids for a number of routes in addition to the individual route bids. This may enable

operators to spread out the costs of their infrastructure and to take advantage of economies of scope in the use of their vehicles across different routes. Although this complicates the selection process slightly it has proved to be quite manageable. Of course, to facilitate the contracts must specify the capacity to be provided, and possibly the type of vehicles to be used, but must not specify the individual vehicles to be allocated.

4.7 Who should be responsible for infrastructure?

Several different types of infrastructure are involved in public transport operation, which may be treated in a range of different ways. They include garages and maintenance facilities; terminals, shelters, stops, and street furniture; and busways and bus priorities.

4.7.1 Garages and maintenance facilities

As with vehicle fleets, garages and maintenance facilities are owned and provided by the private sector operator in most franchising systems. However, particularly when bus services have traditionally been supplied by a monolithic public sector supplier, and planning controls constrain the development of new facilities, the inability to obtain garage space can be a severe barrier for new suppliers trying to enter the market. In such cases it may be necessary to separate the ownership of garage premises from the traditional operating agency, and lease those facilities at a pre-determined price to the successful franchisee. This has already been accomplished in some Chinese cities where the bus depots are owned by an asset management company that leases them to operators (sometimes for a negligible fee). The problem is that due to large depot size, several “independent” operators may have to share the same depot. Therefore, generally speaking experience in western countries and Latin America suggests that it is probably much more economically efficient for vehicle operators to be responsible for their own fleet financing, maintenance, and garaging.

4.7.2 Terminals, shelters, stops, and street furniture

In contrast to garages and maintenance facilities, passenger terminals and interchanges, shelters, stops, and other street furniture (e.g., signage) are inherently common user facilities, the provision of which is probably best separated from vehicle operations. In most countries the municipality provides them, although in others they may also be franchised to private companies. In many countries with multi-operator systems these facilities belong to the public authority.

4.7.3 Busways and bus priorities

As mentioned earlier, one of the most serious impediments to developing public transport in China’s largest cities has been a reduction in performance in terms of speed and reliability and a cost hike due increased road congestion. The solution is to take a more positive approach to allocating available space between public and private transport so that the public transport network remains relatively uncongested. This means implementing bus priorities and segregating bus rapid transit, as in Kunming and Beijing. Whereas both are desirable, their provision is a matter of managing public road infrastructure, which this paper does not address.

4.8 Who should finance vehicles?

Where franchising systems are well designed, and public authorities behave as reliable customers for private sector suppliers, vehicles can be financed entirely by private sector suppliers, either through direct purchase or leasing arrangements. This is the case in most of western European franchising systems (e.g., in UK, Sweden, and Denmark).

In some cases, the public sector finances vehicles in France, with a management contractor managing the publicly owned vehicles. But this tends to confuse responsibilities, such as allowing the contractor to blame service failures public sector failure to make the appropriate investments. In some developing countries where franchising is new and bankers do not trust municipal governments to honor contracts, it may be difficult for private bus companies to obtain financing for vehicles on reasonable terms. In such circumstances, the public sector may find it necessary in the short term to finance a fleet of vehicles to lease out to suppliers. This has been the case in Uzbekistan, and may deserve consideration for franchising developments under consideration in Vietnam, but it is not an advisable long-term arrangement. An interesting approach to public sector involvement in bus supply has been implemented in St. Petersburg, Russian Federation. (see Box 3).

Box 3 Supplying buses in St Petersburg, Russia.

In St Petersburg, Russia, through an agreement signed in August, 1999 the municipality instituted a public-private partnership with the Swedish vehicle manufacturer Scania. Beginning production in May 2002, the company, named Scania-Peter, manufactures buses which are a version of the Scania Omnilink developed for the Russian market. It presently has 120 employees but claims to have an ultimate capacity of 300-400. After a year-long competitive process, carried out to international norms, ScaniaPeter was chosen to commit to supply a fleet of new 120 passenger buses to the operators of the social routes. They will finance the new fleet, provide all maintenance and repair for six years and train and qualify the drivers. If a bus is out of service, Scania will provide a spare. They receive payment according to the buses made available and on the basis of kilometers run over a certain daily minimum. Failure to have available the contracted number of buses on any day will result in reduced payments. The municipality expects the availability of a leasing possibility at moderate rates to encourage serious new entrants into the business. One significant advantage of this approach is that a city may be able to secure a loan to purchase buses at a favorable rate without being concerned that the length of the loan's maturity will exceed the length of the franchise contract, which it would, obviously, prefer to be shorter for competitive reasons.

It is frequently argued that only the public sector can finance the necessary capital assets, particularly vehicle purchases. However, experience in the UK and elsewhere has shown that as long as a regular stream of contracts is coming up for bid, and buses are transferable between operators through a secondhand market, access to capital is not necessarily a serious problem. The crucial requirement is that the public sector faithfully honors any contracts entered into. However, where the system is new, and cities are not viewed as particularly creditworthy, some sort of external guarantee of payments by the city may be necessary.

The alternative is for the assets to remain in independent ownership (i.e., a private sector leasing company) and transferred to whichever firm wins the contract. Franchises may also be shorter than the economic life of the asset if a government makes the investment and provides the asset to the franchisee on a lease basis. This may be a good arrangement in respect to fare collection equipment where monies need to be secured for the franchising authority in a gross cost franchise arrangement. It is less desirable for buses themselves since it reduces the scope of responsibility (and potential for efficient management) for the franchisee. However, it may be an appropriate interim arrangement as part of a transition from a public monopoly to a competitive private supply arrangement.

5 Strengthening regulation

5.1 Should private operators be able to operate in their own right?

In a completely free market model, in which ownership and control has been completely transferred to the private sector and is only subject to general commercial law of the land, free competition is allowed to occur “in the market.” This competition may occur between individual operators, companies, operators’ associations, or even merely between different modes of transport (bus, rail, taxi, minibus, etc.) In this model regulation is usually restricted to matters of safety or environmental side effects or to whatever general monopoly and restrictive practices legislation and institutions exist. A government abrogates all sector-specific powers of economic intervention in this model. In such a regime, it is appropriate that private operators function entirely in their own right. Extreme forms of free markets in the developing world existed in Santiago, Chile, in the late 1980s and in Lima, Peru in the early 1990s. In both cases operator behavior was so unacceptable and environmental impact so damaging that the governments had to re-introduce more restrictive regulatory regimes. Within Europe this approach has only been applied to urban transport in the UK outside London, and is not the model that the EU is likely to follow. It is not recommended for major Chinese cities, though it may have some relevance in rural or peri-urban areas.

5.2 Should the public sector maintain a controlling ownership share in operating companies?

Within successful franchising regimes in many modes of transport in many countries the ultimate ownership of the *right to operate* rests with the state although those rights are delegated, by contract, to purely private companies for limited periods. Within the contract period and in accordance with the contract terms private enterprises operate in their own right as contractors for the regulating/procuring authority. The public authority retains its responsibility and power through the terms of the contracts it lets. With this sort of arrangement the continued existence of a state’s share in the operating companies has been found to be a hindrance rather than a help in several countries. The reason for this is that the regulatory agency, whose job is to get the best value for the money in procuring public services, may be inhibited from selecting the most efficient suppliers because of differences in ownership. For example, in the UK most of the municipal authorities that owned bus companies voluntarily decided to divest themselves of direct ownership when they realized that their real power lay in their procurement and regulatory function. Furthermore, if any bias is suspected, private sector suppliers may be unwilling to enter into competitions for franchises that they feel are biased against them. Thus, in the Chinese context it is important to secure separation of the government planning and regulatory agency from the SOE operators, and then to move towards competitive tendering of service contracts.

Securing an appropriate amount of regulatory agency independence from the political process is critical. It would be unrealistic to expect local politicians to give up all influence over public transport service, and fare structures and levels. Hence, in most cities the public transport procurement and regulatory agency is ultimately responsible to the city government on these matters. But that does not mean that the political authority should intervene on a day-to-day basis in conflicts over existing contracts between the agency and the operators. Such interventions will certainly destroy the confidence of private investors in the sector and would be contrary to the objective of securing private sector finance, and management of the industry under a public sector regulatory framework

5.3 How can the operator and planner/regulator functions of an SOE be separated ?

Many of the functions that were performed within the transport supply organization (General Bus Company, or GBC)) under a parastatal monopoly arrangement need instead to be performed within the regulatory agency (Urban Public Transport Agency, or UPTA) under a franchising regime. Table 1 compares the functions of public sector management associated with the regulated market compared to those required for either a public sector monopoly or complete free entry.

The fact that the incumbent major supplier possesses these skills is often used as an argument for not disturbing the existing arrangement, which may be a major impediment to advancing reform in China, but the problem is not insoluble. For example, the same concentration of planning skills in the operating agency existed in the major metropolitan transport companies, or Passenger Transport Authority (PTE), in the UK prior to 1986. In that case the old PTE was split into two separate agencies: the regulatory agency, which remained a public sector agency, and the operating company, which was established as a commercial company and was eventually privatized. Because the first stage involved separation within the public sector problems of relative pay arrangements in the public and private sectors was not an issue in the initial change. It would be necessary to make sure that no such problems occurred in China's reform.

Table 1. Public sector functions in different Urban Public Transport models

Elements of the UPT System	UPT Model		
	Public Sector Monopoly	Regulated Market	Free Market
Specific Purpose UPTA Administration Body (a PTA, Municipal public transport department, etc.)	Required, but has limited role as most functions performed by the General Bus Co.	Required, UPTA has a major role as “government” functions separated from General Bus Co.	May be needed, but only with very limited functions.
Planning and Scheduling			
General Transport Planning Undertaken by Urban Planning Agency	Required as a basis for matching demand and supply	Required as a basis for matching demand and supply	Only required to identify demand not being met
Route Planning	Should be done by UPTA, but often left to General Bus Co.	Normally done by UPTA, but often left to operators in area franchises	Not required. Left to operators
Vehicle Scheduling	Done by General Bus Company	Done by operators to meet service schedules set by UPTA	Not required. Left to operators
Bus dispatching	Done by General Bus Company	Done by operators, and well monitored by UPTA.	Not required. Left to operators
Market Regulation			
Control of Access to the Market	By Administrative Decision	Through Bidding or Negotiation	Free
Competition	Absent	Competition for the Market	Competition in the Market
Procurement of Services			
Bus Service Contracting	Possible but not usually involved	Required	Not required
Assessing the Quality of Service	Required, but often not done	Required to be done by UPTA as part of contract monitoring	Not required. Done by operator
Feed-back with Passengers	Required, but often not done	Required to be done by UPTA as part of contract monitoring	Not required. Done by operator
Fares			
Fare Regulation	Strict – by UPTA	Framework or strict by UPTA	Not usual
Fare Revisions	Infrequently by decision of leadership	Mechanism required for UPTA to manage revisions in line with increases in running costs.	Done by operator
Carrying passengers on free or discounted fares	Done by GBC without compensation	Requirements need to be included in bid docs and contracts or be negotiated and paid separately by UPTA.	Only under full compensation
Administration and payment Subsidies and Grants	Usually Required	Possible, but not necessarily required.	Only in the form of compensation for exempts
Vehicle Purchase			
Subsidies for Vehicle and other Capital Assets Acquisition	Normally paid by municipal government to GBC as needed.	Possible but not usually required as vehicle acquisition treated as a commercial activity	Not required

Source: Modified table based on Transinvest: Status and Progress of Urban Transport Reforms in the Russian Federation. Task 5: The possible service arrangements and regulatory options that might be applied in Russian cities. Russian Federal Ministry of Transport, 2001.

5.4 What is the role of the regulatory authority in a franchise market?

An Urban Passenger Transport Authority (UPTA) is required to manage the design and procurement of services under a competitively tendered franchising system. It must perform several primary functions, including:

- *Organizational.* To ensure that the organization has the structure, personnel, and financial capabilities to carry out its substantive functions within prevailing laws and accounting principles.
- *Financial.* To secure, allocate, and disburse the finances required for all the activities of the authority, including paying staff and making any payments for service delivery under franchise contracts. This will include managing revenue collection and revenue protection, including collecting compensation payments due from other line agencies under public service contract (PSC) arrangements.
- *General policy formulation.* To develop, adapt, and express a policy for UPT consistent with the general transport strategy of the strategic authority or political principal.
- *Regulatory.* To establish and manage the processes for regulating public transport in the area, including the tasks of developing regulations, assessing applications in cases where there is qualitative control but no tendered franchising, managing license issue and renewal, and controlling licensed and unlicensed operations.
- *Planning.* To develop a supply plan for the area and convert it into a set of units of supply for offer in competitive tendering, based on demand surveys and forecasting techniques. This will include responsibility for detailed network design.
- *Fares.* To define a fare structure consistent with the strategies of the municipality and the financial capability of the authority; to advise the authority of any inconsistency between fares, desired service levels, and financial capability; and to suggest alternative actions for reconciling any inconsistencies. This will include arrangements for modal integration of fare schemes and for off-vehicle ticket sales; procurement and maintenance of ticketing equipment where provided by the authority.
- *Procurement.* To develop and manage procedures to procure the planned services, including preparation of tender documentation; running tender competitions; handling any negotiated contracts and any re-bidding of tenders; and maintaining complete tender documentation.
- *Enforcement.* To ensure that contracts are fairly competed and efficiently implemented. This will include the design and implementation of a monitoring system, both through self-reporting and through surveys, manual inspection and AVL.
- *Promotion.* To promote public transport to consumers, in the form of market research and marketing exercises, including the maintenance of public information services, published timetables etc., and to establish and manage relations with the main political stakeholders.
- *Infrastructure and equipment.* To procure, manage and maintain any infrastructure to be provided by the authority, including AVL and ticketing equipment, bus shelters, and in some cases, terminals, garages and vehicles.

The functions involve a number of activities which did not exist, or were not seen as so important under a monopolist supply arrangement. These include ensuring the separation of system management from operations, definition, implementation, monitoring and enforcement of contracts, and their termination. Some of the issues arising in these areas are discussed in Annex 1.

5.5 How should the regulatory function be organized?

The main requirements for an efficient, market oriented, UPT planning and management system are as follows:

- Separation of public transport planning responsibilities from those for supply of services
- Efficient design of a franchising system
- Efficient implementation of the procurement and management of franchised services
- Appropriate legal framework for competitively tendered franchising
- Integration of public transport planning within a broader strategic urban land use and transport framework
- International experience suggests that the most effective and efficient way to deliver integrated and sustainable public transport services in a city is to establish a separate authority to deal specifically with public transport matters. This is often called a Passenger Transport Authority (PTA). This may be a normal committee of the municipal government, or a quasi independent authority to secure collaboration between neighboring jurisdictions within a metropolitan area. It should work in close co-ordination with the administrative unit responsible for road network and traffic management, and may be part of an integrated Strategic Transport Authority (STA). Some of the ways in which these institutional requirements have been met in western countries are discussed in Annex 2.

5.6 How should the regulatory authority be staffed?

Where tendering for franchises is to replace traditional monopoly supply it is highly unlikely that the political authority will have the necessary skills for system planning. In many cities (as is the case in China) existing knowledge of system planning will mostly be vested in the public sector companies, which have traditionally been both planner and operators. Transfer of those skills from the operating agency to the planning and procurement agency may thus be an essential precursor of the introduction of competitively tendered franchising. Where this occurs it will be necessary to ensure that the new planning staff does not continue its former commitment to the operating agency in the form of preferment in selection.

Not all skills are likely to exist within the industry. Hence there will probably be a need for the import of some staff from other sectors with experience in competitive tendering, and for the retraining of staff that was formerly operational staff of the publicly owned transport company. Careful provision for training in efficient implementation is essential to the success of any competitively tendered franchising system.

5.7 Should tariffs be controlled for social reasons?

5.7.1 Fare levels

It will normally be the case that the franchising authority has the legal power to set fares, and chooses to include fare schedules in the tender documents. This will allow bidders to estimate their revenues. However, particularly in the case of net cost contracts, the operators may themselves wish to have some flexibility in order to offer promotional fares to generate traffic. It may therefore be desirable to specify a schedule of maximum fares, leaving some freedom for franchisees to reduce fares below those levels where they perceive the market to be very price elastic.

5.7.2 Fare structures

Flat fares are easy to collect for the operator and convenient to pay for the user. But, particularly in extensive systems they are poor revenue generators as, if set at a level that covers costs overall, they discourage short trips that appear relatively expensive. They also offer perverse long-term incentives to residential location as they encourage people to live relatively further from their work than they would if more remote location involved higher transport fares. In free market entry systems controlled flat fares also encourage the fragmentation of services into more, shorter routes, with interchange time as well as money fare penalties.

Choice of a fare structure thus involves trading off the revenue generation possibilities of a finely graduated fare scale with the collection cost and customer convenience characteristics of the flat fare scale. A compromise that is therefore suggested for larger cities is a ring zone system, in which the size of the fare paid is determined by the difference in the ring number of the origin and destination. This is particularly advantageous where trips are predominantly from the outskirts to the central city. This system is used in Paris. Where there are many trips crossing from one side of the city to the other, the fare will need to relate to the number of zones being crossed. This system is used in Copenhagen, and Melbourne.

5.7.3 Fare adjustments under franchising

Where contracts have a duration of more than one year they will need to contain provisions for adjustment of fares, either due to inflation or due to policy changes by the franchising authority during the period of the franchise. This is particularly important in a net cost system with centrally determined fares. The normal approach to this is to specify an inflation adjustment mechanism within the contract documents and separately to set out the provisions for changes in the contract payments where the authority imposes fare changes outside the normal inflation adjustment (or does not change fares in line with inflation).

Mayors in China, as in most countries, are often reluctant to raise fares and there is a history in Chinese cities of a long time between fare increases. As argued earlier, the results of this can be disastrous for the existing suppliers and very damaging to the prospects of attracting risk capital into the sector. It is therefore critical that the contracts shall include appropriate provisions to ensure that contracting suppliers do not suffer financial losses due to short term political unwillingness to face the problems of general inflation. This can be either in the form of a pre-specified adjustment mechanism, either for fares or for contract payments in the event that mayors wish to retain the freedom to control and adjust fares.

5.7.4 Multi-modal or multi-operator ticketing systems.

In large cities, particularly those with several modes of public transport within the system, it may be beneficial to users, and a source of traffic generation, if through tickets can be purchased that can be used in a composite trip on vehicles run by different operators. Gross cost tendering makes this very easy, as there are no revenues to distribute, all services being procured on contracts paid on a vehicle mileage basis.

But it may also be desirable in systems procured on a net cost, or lowest fare basis, where the operator does need to be paid for all passengers. In that sort of situation, a basis has to be found for transferring money between the primary carrier, who sells the ticket and collects the revenue, and subsequent carriers, who get no revenue directly. This will normally be done through a clearinghouse in which only the balances are transferred. But it also will require some collection of information, through the

ticket issue and validation system, on which to base the money transfers. The best way to handle this is to use electronic ticketing, with automatic data collection and analysis to make the necessary transfer calculations. Ticket issue based allocation depends upon 100% capture of the data (or unbiased failures across all operators) and inability of operators to fiddle the figures (multiple entry, etc). Without this guarantee surveys and audit are likely to be needed to supplement the data.

Even if a 100% reliable ticket based allocation is possible, this does not solve all of the problems in a multi-operator system. If through ticketing is provided, where the whole point of the through ticketing is that the ticket cost will be less than it would be to have a separate tickets for each leg of a two or more operator trip, or a ticket allows unlimited travel (in an area), there will have to be an agreement between operators – or a rule imposed by the franchising authority on all operators – setting out the principles on which revenues are to be allocated.

5.7.5 Season tickets and system cards

“Season” tickets allowing for travel for a week, month or year have proved to be good generators of traffic in many cities. They offer the marginal trip at no extra cost, and may help to support off-peak services so long as they are appropriately priced. They are used in many cities that have competitively tendered franchising arrangements, and are generally to be encouraged.

The main question is “who should offer them?” In gross cost tendering situations, the answer is the franchising authority, because all revenues accrue to that authority. In net cost tendering arrangements there is the possibility that the individual company might choose to offer its own. This may be attractive for the dominant operator as a way of attracting patronage to its own services rather than to other services overlapping of the route. In practice this may be a barrier to entry of new competitors. Hence it is generally advisable for season tickets to be system wide, rather than operator specific, and to be issued by the franchising authority. This issue arose in some of the metropolitan counties in the UK immediately following the regulatory reform in the late eighties.

5.8 What legal basis is necessary for franchising?

Any franchising system must be capable of generating franchise contracts that are enforceable in law, and that will not be undermined either by the actions of public agencies (e.g., subsequent franchising of new competing services) or private agencies (e.g., illegal competition by interlopers on a franchised route). Particularly in federal systems where functions are divided between the federation and the members of the federation it is important that there is a well specified and consistent legal basis that gives the lower level authorities the legal right to implement franchising effectively.

Where powers over public transport have been decentralized by constitution, all subsequent legislation, at both central and regional level must be consistent with that constitutional allocation of power. Where that is not the case, national transport framework legislation is necessary to clearly define where responsibility lies for urban transport, and what kinds of management and supply arrangements are permissible. This may involve the need to repeal previous legislation, particularly where that legislation gives to the federal government or its agencies the exclusive right to provide transport services. A good example of a piece of framework legislation is that embodied in the British Transport Act of 1984.

Amongst the powers that need to be granted to the municipal authority or its agent and included in the framework legislation if they are not otherwise provided for are powers:

- to grant monopoly route franchises, so long as they are competitively tendered

- to prosecute interlopers on competitively tendered routes
- to undertake multi-year contracts with operators
- to change the legal status of its publicly owned operating companies

In most countries there is some form of national competition or anti-monopoly legislation. It is important that this is consistent with the design of the franchising systems. That may impose several requirements of the monopoly legislation.

- *Competitively tendered rights* to supply public transport services must be legally valid. In some of the transition economies early anti-monopoly legislation legislated for freedom of entry into the supply of public services. Such complete freedom is likely to be inconsistent with the desire to replace competition “in the market” by competition “for the market” of urban transport services. Either within the anti-monopoly legislation within the national transport framework law a definition will be required of what constitutes the supply of a public transport service which enables the necessary degree of protection to be given to successful bidders from “pirate” operations, particularly with small vehicles.
- *Collusion in bidding* must be effectively prevented. This is always difficult to prove, especially when there are a small number of large potential competitors. Heavy penalties may be necessary in order to reduce the incentive to collude.
- *Predatory commercial practices* must be controlled. Particularly where publicly owned operators are bidding, they must not be able to win contracts by bidding below cost. This may be dealt with partly by requiring that any publicly owned bidder must operate under the normal commercial law, and be subject to bankruptcy in the normal way. Further, where, in the early stages of introduction of route based competitively tendered franchising, some contracts remain that are subsidized and were not competitively tendered bidders must not be able to use the profits from these contracts to subsidize below cost bids for further contracts. This will apply particularly where state owned enterprise monopoly powers are being replaced piecemeal over a period and the state enterprises allowed to compete for the tendered contracts. Some provision must then be made for auditing public sector bids, and penalties applied for bidding below cost. A good example of how this can be handled is that of London, discussed later.
- *Mergers* must be prevented from being undertaken to create monopoly power and eliminate competition. While most national legislation contains some definition of what maximum share of the market shall be deemed to constitute monopoly power, it is usually based on the share of the national market. Where, as in public transport, the local markets are very largely independent of each other, all city markets could be effectively monopolized with no company having a very large share of the national market. On the other hand, for smaller and middle sized cities the most effective service may be provided by a single operator. Enforcement should therefore be based on the intent to monopolize.

Other national legislation may also have an impact on competition in public transport, e.g. procurement legislation, legislation on vehicle conditions, inspection, roadworthiness, environmental standards, etc. The need for compliance with this body of law will need to be stated in contract documents to avoid any confusion. Any city deciding to introduce competitive tendering of bus services should take local legal advice on the consistency of the mechanisms used with other national legislation

6 Improving service quality

The general interpretation of the requirement (in SC #46) to improve service quality appears to have focused on a search for large vehicles operated by large scale companies, to be obtained, if necessary, by consolidation of existing companies. This has some inherently anti-competitive implications and should therefore be approached with caution. A number of critical assumptions which appear to be prevalent in recent Chinese reform experience thus need to be carefully re-assessed.

6.1 *Is large scale essential for efficient operation?*

Concerns have already arisen about the degree of fragmentation that has arisen arising from restructuring, and moves have been taken to re-concentrate state-owned public transport companies in Chongqing, Changchun, Xiamen, Xi'an and Kunming. Even the taxi sector is heading towards concentration in some cities such as Tianjin. This belief in scale for its own sake arises from the observation of the excess capacity and predatory operations that have appeared in cases where many operators have been given permission to run over the same route as, for example, in Shanghai. But this is not a consequence of the fact that there are multiple operators in the market, but of the inadequate way in which the entry of new companies is planned and regulated. The philosophy underlying franchising is that the public authority retains the right and responsibility to control the structure of services and to monitor operations on franchise contracts to ensure that unsocial behavior of operators does not occur. This philosophy can be implemented successfully, as it has in several European countries, without any formal exclusion of smaller companies.

There are undoubtedly some economies of scale in bus operations, such as in the purchase of new vehicles and fuel. Some of these have been obtained through associations of operators in South Africa and Uzbekistan, and might possibly be obtained in China by some sort of collaborate arrangement perhaps through CUTPA. But there are also some diseconomies associated with the greater burden of management control in larger public transport enterprises. The international evidence suggests that in terms of pure operational costs the economies of scale are not large and do not extend much beyond a fleet size of 50 vehicles of a common type. What is often wrongly interpreted as an economy of scale is actually simply the greater commercial viability of large companies with monopoly power in certain markets or areas.

Certainly the international evidence suggests that the company should be capable of providing service on at least a whole route, and that subcontracting operations to smaller units has severe disadvantages (as exemplified in Santiago, Chile – see Box 1 earlier). However, the underlying philosophy of competitive tendering of franchising is that if there are really significant economies of scale then the larger companies will be able to win the contracts by offering lower prices. There is therefore no reason to force concentration any further administratively than would be necessary to meet the terms of a specific franchise contract.

6.2 *Is central dispatching necessary, and by who?*

The essence of a good public transport service is that it runs to schedule and runs to time. Control of dispatching and monitoring of service is a necessary part of the operation of the individual operator as well as of the franchising authority. Traditionally, (where the SOE is the monopoly supplier of services), this has been achieved through the combined action of dispatchers at terminals and on-route inspectors. Curiously, at the other extreme, associations of individual operators have commonly employed marshals, or dispatchers, sending vehicles on route only when fully loaded to ensure a fair distribution of revenues between members of the association.

Within franchising regimes it is normally an obligation of the contract to perform service according to schedule, with penalties attached to non-performance. While performance could be monitored by the traditional combination of dispatchers and inspectors, the ultimate responsibility would rest with the contractor to perform according to contract. But it might also be performed in more technologically advanced ways through the use of AVL systems. For example, all contractors in London have to accept monitoring in this way. Hence, while central dispatching staff may continue to be employed under a franchising as part of the enforcement function, this could be done on other ways, leaving the contractors to decide how they ensure performance.

6.3 Can social service only be performed by state or municipally owned companies?

In many Western European countries, such as the UK, France, and Scandinavia, subsidized social services are successfully provided by private operators under contract to the local political authority. Yet in many of the countries of Eastern Europe and the former Soviet Union it is believed that subsidized social services must be the exclusive preserve of the traditional public sector operators.

The source of this belief is that while publicly owned companies can receive subsidies to cover their losses private companies cannot, and hence will not be willing to provide the social services. This is not necessarily the case. Social services can be effectively provided by private enterprises in the following two ways:

- If private companies operate under contract to the public authorities that allocate subsidies to those companies that offer to meet the service objectives and fare policies of the authorities at the least cost to the public budget. (This is consistent with the philosophy of competitively tendered franchising systems, which government has adopted as its preferred approach to public utility services).
- If subsidies are paid on the basis of the passengers carried and compensation paid to the supplier, whether public or private.

There are many examples throughout the world of the difficulties that arise when subsidies for the provision of social services are reserved for publicly owned companies, as in the following cases:

- In Sri Lanka, although the subsidies for carriage of students and for unremunerative social services are reserved for the public sector companies, these companies are high cost and inefficient. The result is that they are unable to maintain the services required, and the target populations are often forced to use private sector services in any case.
- In several of the countries of the Former Soviet Union (Uzbekistan, Turkmenistan, Kyrgyz S.R.) the quantity and quality of public sector services, which alone have the obligation of carrying free and reduced fare passengers, has deteriorated substantially, while the quality of those provided by the private sector has improved.

The lesson to be learned from these countries would appear to be that the public authorities should decide what services they wish to procure at fares below cost, and then procure those services on contract, by competitive tender, from whoever offers the best value for money.

6.4 Should minibuses be discouraged?

Small vehicles supply a large and expanding proportion of public transport demand in many low and middle income countries, and are an essential part of the public transport system in many countries. They are able to establish their position in the market, either legitimately through having lower costs

or providing better service than traditional carriers, or illegitimately through various forms of predation and avoidance of regulatory or tax regimes. They are often associated with informal or small scale operation and perform a wide variety of useful functions, including filling market gaps, serving lightly loaded routes and feeding traditional trunk bus services and offer a range of benefits including those of speed, frequency, flexibility and, sometimes, lower fares. But they may also compete directly with the traditional services, undermining the core networks, and can be a serious cause of congestion in the largest cities.

A number of policy responses have been adopted. *Direct suppression* has rarely proved possible internationally (or perhaps even desirable). In Sao Paulo, Brazil, such an attempt caused serious public disturbance. Certainly any attempt to revise and reduce the role of small vehicles is much more likely to be successful if accompanied by a compensation and re-assignment package (as in Recife, Brazil). *Passive toleration* of the informal sector at the same time as maintaining traditional constraints on the formal sector tends to have the counterproductive effect of totally undermining the formal public sector service (Uzbekistan, Kyrgyzstan) Providing for *self-regulation* by operators associations improves discipline but often results in wasteful economic practices such as dispatching vehicles from termini only when they have a full load. (Ghana, Sri Lanka). Similarly, the creation of *parallel, but un-integrated regimes* for the formal and informal sectors has not worked well (Sri Lanka, Bogota, Colombia).

In general, therefore, the minibus sector cannot be ignored, and provision needs to be made to handle it within any regulatory regime. A strong public regulatory capacity is essential for any disciplined regime of operation by small operators. Franchising individual vehicles can be done, but requires a strong public sector management to look after timetabling and dispatching (Sri Lanka). Competitively tendered franchising is a way of introducing discipline to the sector, and can be structured to involve the small vehicle and informal operator, as in Kyrgyzstan. In this context, the creation of associations may be a useful device for engaging small entrepreneurs in competitive franchising regimes. They are particularly useful in areas of low demand that would not justify a frequent service by large vehicles, as feeders to rail metro or bus rapid transit systems or to give access to areas where, for reasons of road width or hilliness, it is difficult for large vehicles to serve. In all cases, however, ownership and operational responsibility must be recognizable and responsibilities of owners and operators clear.

7 Epilogue - Implementing a reform program

7.1 The need for phasing

Reforms are unlikely to be successful unless there is a clear prior understanding of their full implications and adequate commitment by the major stakeholders, over a protracted period.

In many cities that would wish to introduce some form of competition system, service is currently dominated by the traditional state owned monopoly supplier. In large cities there will often be a dominant traditional supplier with a strong hold on the market. Often this is presented as a reason why competition cannot work. In fact it is not an insuperable problem, But to overcome it takes time and careful planning and phasing of the various aspects of a reform program. Hence a phased development of a competitive regime should have a timetable, with initial reform commitment, structural reform, system design and implementation steps forming a well-planned sequence. The experience of London, where the total reform took ten years to implement, is an example of a phased transition from a situation in which the public sector was the sole supplier of services to one in which there is fair competition for franchises. (see Box 4)

Box 4 Phasing reform in London

Until 1984 bus services in London were provided exclusively by the state owned enterprise London Transport (LT). However, patronage was declining and both fares and subsidy levels rising steadily. The London Transport Act of that year made provision for a comprehensive reform through which the statutory monopoly rights of LT would be withdrawn, LT would be privatized, and all services procured through competitive tendering of franchises on a gross cost basis.

The implementation of the reform was phased over more than 10 years. In the first phase LT was restructured internally into 11 separately accounting bus companies operating services under contracts negotiated with the Greater London Council. In a second phase these contracts were progressively subject to competitive tender, with no preference given to the LT subsidiaries. Finally in the third phase of the reform the LT subsidiaries were sold to the private sector. The complete reform took over ten years to introduce.

The effects of the reform were striking. Costs per bus kilometer were reduced by nearly 40% in real terms, and the subsidy almost totally eliminated. Moreover, the structure has proved to be very flexible. Some services were for a period converted to a net cost contract basis without the need for any change in the legislation. And, since the introduction in 2000 of a new agency, Transport for London, under direct control of a democratically elected mayor, subsidy has been re-introduced and the advantages of competition have been redirected to improve service, rejuvenate the fleet, and limit fare increases.

Source: Based on reports from Transport for London

7.2 Reform commitment stage

This suggests that cities should allow time for discussion and explanation in a commitment stage, which would allow for the following activities

- Decision to introduce a reform program. The decision to introduce a program of reform should be signaled by a clear municipal political statement of intention to reform.
- Formation of a local reform leading group. The city should designate an appropriate officer or group to be responsible for the design and progress of the public transport reform program.
- Selection of type of regime to be introduced. In discussion with advisers from the central government, or using consultants, a reform model appropriate to the city circumstances should be decided on. This may involve separate decisions about bus, tram, trolleybus and train services.
- Publicity campaigns to gain acceptability from employees, operators and the public may be very useful.

7.3 Institutional reform stage

As the necessary institutional reforms are likely to be time consuming it is advisable to start them early in the process. This is likely to involve the following actions.

- Creation of planning and procurement authority. Where the required planning skills are within the existing public sector operating company, that company should be split into two – a

planning/procuring unit and a number of separately accountable operating units.(see below)
All subsidy payments should go initially to the planning and procurement unit.

- Restructuring of SOEs, with plans for privatization if desired. Where the state owned enterprise is large it should be broken down into smaller, independent operating units, established as profit centers. The allocation of existing subsidies should be split down into specific route or service subsidies, embodied in negotiated contracts between the planning unit and the operating units. Where it is intended eventually to equitize the public sector operator, notice of that intention should be given. Moreover, simply giving notice is not sufficient and there should be a special campaign involving employees, etc.. The state owned profit center units should be converted into commercial companies, able to be declared bankrupt, under the prevailing company legislation, and any direct deficit subsidy from their owning authorities prohibited. It would be useful to add a concrete example.
- Legalization/encouragement to formation of operators associations. Where a fragmented private sector exists, all operators should be given notice (see previous paragraph) of the proposed reform, and of the ways in which they might participate in the future. For systems of route or area based contracts requiring a minimum number of vehicles, operators should be advised of the possibility of forming operators associations or companies to compete, and instructed on the necessary legal form and procedures for qualifying associations. It would be useful to add a concrete example.

7.4 System design phase

Before the introduction of franchising it is necessary to ensure that the arrangements are administratively manageable and give appropriate incentives to efficiency for competing bidders. This will require action on the following.

- Design of bidding and contract documents. The planning and procurement authority, the PTA should design the invitation to tender and draft contract documents. A manual, with copies of draft documents is available from the Center.
- Network design. A decision must be made concerning who is responsible for network design. In the case of route-based franchises this will be the authority. In the case of area or system based contracts network design can be undertaken either by the authority or by the franchised operator. In the latter case, the broad parameters for the contract will need to be specified (route density, total service capacity, access times, etc) by the authority.
- Financial planning for system. The authority must develop a procedure for estimating the finance requirements for different levels of service and fare, and be able to relate that to its financial capacity.

7.5 Operational Phase

For the operational phase it may also be necessary to have a differentiated timetable taking into account the on the existing nature and capabilities of operators in the private and public sectors.

- *Pilot tender/ transition period.* An initial franchise or set of franchises for tender should be selected on the basis of those that are most likely to attract effective competitive bids.
- *Transitional period.* For an interim period the public sector may need to be allowed to restructure and mature to handle a more commercial environment, while the private sector may need mainly to become accustomed to providing services in a more disciplined way.

Hence the public sector may initially be given negotiated contracts to provide traditional core services that are progressively opened to competitive tendering, while the private sector may have their rights and obligations immediately put on a contractual basis. For the period in which an original state owned operator still has negotiated contracts in operation, an independent auditor should be given the power to audit bids of state owned enterprises to ensure that they are not cross-subsidized from negotiated contracts.

- *Full-scale application of competitive tendering* A schedule should be established for the progressive shift of these negotiated contracts to competitively tendered contracts, open to private as well as public operators. For a large city, assuming that contracts are for five years, 20% of the contracts might be opened to competitive tendering each year, thus completing the introduction of competitive tendering in six years. The terms of the original negotiated contracts should be structured to permit this (i.e. 20% of one year duration, 20% of 2 years, etc.).

During the interim stages the planning institutions will be established, and integrated schedules, fare structures and operational rules developed for the two sectors. Ultimately, however their structural differences will be eliminated and they will be incorporated in a common competitive tendering system.

7.6 Review phase

It may also be sensible to provide for a statutory review of the workings of the new system some time (about 5-10 years) after its installation. Making this initial statutory provision may make it easier for mayors to undertake reviews without any implication that the system is being reviewed because it is unsatisfactory due to their poor management.

Annex 1. Functions requiring development in franchising systems

1 Separating management from operations

For private sector enterprises to be willing to compete for franchises they must be convinced that they will be treated fairly. In particular they will be concerned to ensure that they are not competing with public sector agencies that are being given preferential treatment. Thus, even if state owned enterprises remain as suppliers of part of the service, the planning and procurement functions of the municipal authority (the PTA/PTE – see below) will need to be clearly separated from the operational functions of municipally or state owned companies.

It will often be the case that all the necessary skills for service planning and system design are within the public sector operating agency (General Bus Company). Where this is the case, they should be transferred from the company to an independent agency, charged with procuring services on the basis of fair competition, without giving preference to public sector operators.

If enterprises that remain in public ownership are also involved in some activities that are directly subsidized on negotiated contracts, they may be able to use profit from the negotiated contracts to win tendered contracts unfairly. There are various ways of preventing this. As in London, a procedure for independent auditing of their bids can be established, to ensure that public companies are not using cross subsidy to support their activities in the competitive markets. But in an environment of influence or possible corruption private bidders may not be convinced by this protection, and hence be unwilling to waste effort bidding. Hence it might be better in the first instance to tender a substantial proportion of routes, for which the public company is not allowed to bid, while reserving the remainder for the public company on negotiated contracts. Once the tendering system is established the bid proportion can be increased and the public company allowed to bid. The cost that the company has declared to be necessary to support its negotiated routes can then be used as a “reality benchmark” on its bids for tendered routes. This has been successfully achieved in a number of countries, such as the UK and Sweden, but requires a clear and determined separation and definition of the different functions.

2 Network planning

Network planning and definition is important for two reasons:

- To establish the overall demand pattern for services so as to ensure that services supplied do meet the passenger demand pattern.
- In order to ensure that resources are used most efficiently to satisfy the passenger demand pattern.
- In order to define the context in which a particular service contract is set in order to eliminate uncertainty amongst bidders about the potential profitability of the contract. Without such a defined basis, private operators are likely to be unwilling to make long-term commitments to supply.

Unfortunately, many cities do not have the technical expertise to redesign networks efficiently. And where such skills exist they tend to reside in the traditional public enterprise that has little incentive to redesign. Hence emphasis on network redesign is an important first component of a reform process.

The allocation of the network-planning role may differ according to the nature of the franchise.

- Where the franchising authority is issuing franchises for individual routes it must work from a total network plan. In such cases the route planning function is a responsibility of the authority for which it must have the relevant skills. As demand patterns change over time the route network will also need to be changed.
- Where a whole system, or substantial part of a system, is franchised it may be sensible for the responsibility for network planning to be the responsibility of the operator. In those circumstances the authority will need to set some minimum requirements in terms of coverage and frequencies, and possibly include some incentives in the contract for increases in service offered or patronage secured.

3 Individual service franchise definition

The way in which services are defined is usually in terms of the main points that they have to serve. Some element of commercial initiative may be allowed by permitting the bidders to suggest detailed routings between the main points both in order to improve patronage and, possibly, to take advantage of better operating conditions on some roads than other. Particularly in the case of net cost franchises it is unlikely that operators will choose routes that leave potential passengers unserved.

The main difficulty in administering such a flexible scheme is that operators may wish to make variations of the basic route to pick up passengers who would otherwise be using some alternative.

4 Quality specification

One of the main dangers of competitive franchising regimes is that the pressure to keep costs low leads to a failure to adequately maintain or replace vehicles. There is some evidence to suggest that some part of the cost reductions in the early stages of the British regulatory reform came from deferral of replacement expenditures, both to serve the deregulated market and to keep bid prices low in the tendered section of the market. This can be countered either by enforcing tight controls of vehicle quality independent of age, or by imposing a maximum age either on individual vehicles or on the operators fleet average.

Net cost contracts give some incentive to operators to improve service quality as that may increase the patronage and revenues on which their profitability depends. Gross cost contracts, in contrast, give little incentive to improve quality as the revenue of the operator depends solely on satisfying the terms of the contract. For that reason, contracts typically specify levels of punctuality, vehicle age and fitness, which can be monitored and enforced.

An alternative approach, particularly with gross cost contracts is to have financial incentives within the contract for quality improvement. Examples of quality incentives are as follows.

- In Stockholm, Sweden, an independent company checks the cleanliness of stations and vehicles. Measurable improvements are rewarded with a bonus on top of the contracted price.
- In Sodertalje, Sweden, customer surveys are used to determine the quality of service for bonus calculation.

5 Defining contract obligations

Franchise contracts impose obligations on both the franchising authority and the franchisee. The transport authority needs to monitor any aspects of the contracts that the operator can benefit from failing to honor. Those obligations include:

- The obligation to provide a specified amount of service, relevant to both types of contract but most likely to be ignored in gross cost contracts
- The obligation of the operator in gross cost contracts to collect revenue on behalf of the franchiser and to transfer that revenue promptly and in full
- The obligations to meet specified service quality obligations, such as vehicle age, cleanliness, punctuality, etc.
- The obligation to provide relevant information in a timely manner.

The contracts also place obligations on the franchising authority, namely:

- To pay the contracted sums promptly
- To revise the fares or contract payments periodically as specified in the contract
- Not to introduce new franchises adversely affecting the viability of existing franchises without compensation
- To protect the franchisee against any infringement of his franchise by illegal or unfranchised operators
- To guarantee that traffic management measures are in place and infrastructure is accessible.

The significance of particular obligations varies between types of franchising system. For example, from the franchising authorities' viewpoint gross cost contracts are vulnerable to operators failing to collect revenues from all passengers. These must therefore be most carefully monitored. Gross cost contracts are vulnerable to a failure to supply the full service contracted, while net cost contracts remain vulnerable to the inducement to fall short on supply at the least profitable scheduled times.

In contrast, from the operators' viewpoint net cost contracts are particularly vulnerable to the failure to adjust fares to account for inflation and to the introduction of new services that abstract traffic from their franchises. They will therefore wish to have those conditions properly specified, monitored and enforced.

Monitoring of service reliability and punctuality can be done either manually through dispatcher and inspector reports or electronically through the use of automatic vehicle location (AVL) devices. The larger the fleet in operation and the greater the number of operators the more likely it is that the initial capital expense of AVL will be justified. If it is to be used it must be a condition of any franchise contract that the vehicles operated be fitted appropriately. The equipment is usually provided by the authority. Operator behavior can also be monitored through the monitoring of passenger complaints made to the UPTA and passenger service quality surveys

6 General monitoring and enforcement requirements

Monitoring and enforcement arrangements are necessary under franchising systems in order to secure the integrity of the system by defending the legitimate interests of both the franchiser and the franchisee.

The franchiser needs protection in respect of:

- The level and quality of service provided under the contract
- The proper collection and transfer of fare revenues (gross cost contracting systems only)
- Potential collusive behavior of bidders
- Safety and environmental impacts of service provision

The franchisee needs protection in respect of:

- Unfair competitive practices by interlopers
- Unfair behavior by the client authority

7 Protecting the franchising authority

7.1 Service quantity

Franchise contracts will usually specify the routes, frequencies and schedules to be operated. Given the profitability of not operating the full contracted service, particularly in gross cost contracts, it is important that the authority has some means of checking on actual outturn of vehicles. This will usually be done by some combination of the following:

- Self-reporting. Most authorities will require complete records of services provided to be maintained by the operator and submitted to, or openly available to the authority.
- Random roadside checking. This involves manual inspection of service supplied, and of timekeeping. As in most manual inspection systems it is important that the sampling of activities to be monitored is scientific
- AVL. This allows a more comprehensive, real time, monitoring of service that can also be used for real time control and adjustment if required.

7.2 Service quality

Quantitative specification of service quality is needed for the following main purposes:

- *To implement financial incentives for increased quality.* In addition to specifying fares and the quantity of service to be provided contracts often define some minimum standards for quality of service. The standards are enforced either through an incentive payment for good performance or penalties for below-target performance.
- *To trigger intervention and actions.* Target or threshold values of key performance indicators are set, and where operators fail to meet targets, intervention is required to bring the values back within acceptable ranges.

- *To determine whether sanctions are applied to the operator (e.g. loss of route).* In some cities, the 'unacceptable' level of performance is used to trigger sanctions against the operator. This could be in the form of fines, non-renewal of contract, termination of contract or disqualification from further participation in the market.
- *To inform the public.* Performance measures, especially relating to customer satisfaction, may be published to inform both the users and the sponsors of the transport services, and to put pressure on the operators.
- *Customer charter compensation.* Some cities have put a customer charter or guarantee in place, and operators must make compensation to customers for failure to meet minimum service standards..
- *Benchmarking for internal assessment and continuous improvement,* Performance measures can be used by the operators to benchmark their own effectiveness and efficiency, and act as a basis for continuous improvements (see Box 8.1)

Reliability is the primary quality feature measured in most franchising arrangements. It is usually measured in terms of the percentage of cancelled services. Most franchises have clauses that specify the maximum level of cancellation that can be accepted without penalty, as well as a scale of penalties for services lost above that threshold.

Punctuality is the second characteristic that is usually monitored even though operators may have no systematic incentive to run late. Recording and considering punctuality records is nevertheless important as consistent lateness may indicate the need for remedial action in the form of revisions of routes or schedules to make the timetable more realistic. Proportions of on time arrival or aggregates of late running per period are the most common measures. It is usual to allow a certain flexibility (perhaps up to one or two minutes early or up to five minutes late) to be counted as on time. Formal scales of penalty are less frequently used for late running of buses because a good deal of late running results from congestion over which the operator may not have any control.

A wide range of other aspects of quality may be specified in contracts, including attitudes of staff, quality of information services, comfort and cleanliness of terminals and bus stops, passenger comfort, customer care, security, and environmental acceptability. For such conditions to have any influence on behavior they must be monitored, and preferably be compared with standards, the failure to attain carries some penalty, or the surpassing of which earns a bonus. In Copenhagen, for example a proportion of the fund for purchase of franchised services is set aside for the payments of bonuses to operators on the basis of the passenger surveys.

7.3 Revenue collection and protection

Collecting fares from those passengers who should be paying, is always difficult in circumstances when a large proportion of passengers have some form of exemption. It is particularly difficult where vehicles are overcrowded and there is no standard method of identifying valid exemptions. The first step in putting public transport back on to a more viable commercial basis is to tighten up fare collection methods.

There are several different ways to attempt to secure this;

- Increased reliance on sales of tickets off-vehicle. To make this acceptable, without completely eliminating the possibility of the occasional user paying on-board, many countries give a substantial discount for off-vehicle sales (or charge a substantial premium

for on-vehicle sales). Speeding up vehicle boarding with off-vehicle ticketing may require the installation of ticket validation equipment.

- Driver controlled access. In most British cities vehicles require access past the driver who checks/issues tickets.
- Complete mechanization of boarding control, together with relatively sophisticated ticket issue and validation equipment has proved very successful in Zeloningrad, Moscow.

In the case of net cost tendering arrangements with single journey ticketing it should not be necessary to specify any particular fare collection system. Operators will have a high incentive to collect the fares, and, indeed the best bids may well come from those who are most confident of their ability to collect the revenue.

In net cost tendering arrangements the authority needs to know about patronage so as to understand general trends that will influence other invitations to tender and specifically to have the data to enable re-tendering to be effective (by having equal access to data for all potential bidders and minimizing the advantage of the incumbent). There may also be a need for the franchising authority to be involved in information on bus patronage wherever there are off-vehicle revenues that have to be allocated among operators. This may arise in the context of system wide multi-operator tickets or compensation for carriage of free fare or reduced fare passengers.

There are various ways in which this information can be collected;

- By electronic means. If any passenger eligible for a concessionary fare can only obtain that fare by using an electronic “smart card” then it is possible for an on-bus device to record the number of passengers of different categories using a specific vehicle on a specific service. This is subject to collusion between the passenger and the crew to scan a card more than once in order to increase the revenue for the operator. While the logic checks to minimize fraud are generally straightforward, ensuring all users (particularly of season tickets) actually validate their tickets is more difficult. The system will therefore need to be checked for this type of fraud by random journeys of “hidden” inspectors, or by comparison of the patronage checks over time.
- By patronage surveys. This involves the franchising authority undertaking systematic patronage surveys on vehicles of all operators as the basis of the allocation of off-bus revenues.

In gross cost contracts any revenue collected on-bus must be recorded and transferred promptly to the franchising authority. This requires absolutely secure revenue collection and recording systems and appropriate monetary transfer systems. Those cities that have successfully operated gross cost contract systems have mostly required the operators to use a specified type of ticketing and revenue collection system. In London, for example, all operators must use only equipment provided by the TfL that records all ticket sales electronically and secures cash in a safe box. Even that sort of system needs to be supplemented by hidden checks.

7.4 Avoiding collusion in franchise competitions

Competition will only work if there are genuinely independent bidders. If the number of potential bidders is small, or if the relationship between bidders is very close (e.g., in a trade association) they may collude to drive up the contract prices. This may be made illegal under Anti-Monopoly legislation, but is very difficult to detect and prevent. The steps that may be taken to deter it include:

- Strong enforcement of anti-monopoly law
- Secret, closed envelope, bidding procedures
- Small contract packages to encourage small and new bidders (though small contract packages only work for genuinely small packages of work; breaking a sensible route up into parts is unlikely to be appropriate due to the lack of passenger benefits and/or problems of co-ordination).
- Use of a public sector benchmark. Both Stockholm and London have decided to have a continued in-house operation to act as a benchmark or operator of last resort. If there is a clear limit to its allowed scale of operation (5% to 10% of the market) it does not seriously undermine competition. If its costs are much higher than the external operators it implies it can be scaled back or removed, and if its costs (fully allocated) are significantly lower then one has to accept the market is not perfect.

7.5 Protection of safety and environment

The objective of protecting public safety and the environment from public transport within competitive tendering regimes can be implemented both by general safety and environmental monitoring and by careful design and enforcement of contracts.

The contracts can call for general specifications of vehicles (such as low floors, fuel types, engine types, etc) though they should not be so specific as to exclude vehicles of similar performance. The enforcement responsibility of the procurement agency then is simply to ensure that what was contracted for is actually supplied.

Public transport vehicles should be subject to national safety and environmental standards, just like any other vehicles. Transport law should dictate that vehicles are kept in a safe roadworthy condition at all times. In the environmental field emissions control regulations should similarly apply to public transport vehicles. In most countries vehicle safety and environmental inspection is the responsibility of a specialized agency (though implementation is sometimes contracted out to the private sector). These responsibilities should rest with the national authorities and be totally separated from the contract enforcement procedures. The only concession that it is sensible to make to the special nature of public transport operation is to allow vehicle examination to be done, under the supervision of the regulatory agency, in the premises of the operator where he has the full facilities for doing so.

That does not preclude the franchise authority maintaining a special interest in standards enforcement as it is almost inevitably implicated in any failures of the operator. At the least, records of performance at national tests should be made available to the authority. The tendering authority then needs to judge whether standard testing satisfies its responsibilities for safety.

8 Protecting the franchisee

Private operators will only be willing to enter into contractual arrangements with public authorities if they can be assured that the conditions under which they agreed to operate will not be arbitrarily or unilaterally altered either by the actions of the authorities or by subsequent actions of other operators which adversely affect their own profitability. The following forms of protection need therefore to be built into the franchising arrangements.

8.1 Protection against “interlopers”

Competitively tendered franchising systems effectively work on the basis of selling a monopoly power, of limited duration. Particularly in the case of net cost contracts, the viability of the franchise for the operator will depend critically on the ability of the authority to enforce that monopoly power by preventing “interlopers” from abstracting patronage and revenue. Preventing this will require systematic monitoring of routes for interlopers and strict enforcement.

Monitoring can be a joint activity between the franchise operators and the authority. If the franchised operator has the right to compensation against the continuation of interloping observed and reported to the authorities both parties will have a strong incentive to enforce the monopoly right on the route. In the Russian context, this right will need to be established at the local level in co-ordination with the local Anti-Monopoly department.

While enforcement may ultimately be a matter for the courts, there may be effective and available actions within the competence of the franchising authority. It is likely that any interloper will be using a vehicle that has been registered by the franchising authority for some other purpose (e.g., carriage of schoolchildren or operations in another area). Including the loss of the operating license as a penalty for interloping may be a very effective deterrent.

8.2 Protection against physical predation

Predation may be defined as aggressive practice to deter competitors. It is most likely to occur in markets where there is free entry, but can also occur where there are overlapping net cost contracted franchises. This may take a range of forms, including;

- “Racing” to get ahead of competitors vehicles, which can be very dangerous.
- “Swamping” a competitor by running one vehicle closely in front and one closely behind the competitors vehicle to ensure that it is always possible to prevent him getting good access to passengers.
- “Boxing in”, which is an extreme form of swamping in which the competitors vehicle is physically prevented from moving away from a stop.
- “Intimidation” of staff of competitors’ vehicles by threat of or actual physical violence.

It is interesting to note that in gross cost tendering there is a risk of the reverse of predation. This is where a driver deliberately ‘trails’ another operator to minimize their workload.

8.3 Protection against predatory bidding

The general presumption is that bidders will not wish to enter medium or long-term net cost contracts, which are unprofitable, or gross cost contracts at prices below costs. But there may be some circumstances in which such behavior may be profitable. In particular it may be in the interest of a large incumbent to develop a reputation for always being willing to undercut the bid of a new entrant, and hence discouraging potential new entrants. This is particularly likely to occur where some services continue to be provided on either a deficit subsidy basis or on the basis of negotiated (as opposed to competitively tendered) contracts. In those cases the operator may use the advantage of secure revenues in the protected market to subsidize his activities in the competitive market to deter competition.

At least in the early days of introduction of franchising systems, and potentially even in the long term, there may be competition between public and private sector operators.

Where that is the case it is important for the development of an effective competitive system that the terms of competition between public and private sector operators are seen to be fair. This may require:

- *Single round, undisclosed bidding*, which will make it difficult for a larger incumbent to know where and when he is to be subject to competition, and hence prevent him responding in a predatory way. For this reason it is recommended that “best and final offer” arrangements in which losers are able to revise their bids for a second round bid should not be used in bus franchising.
- *Legal prohibition of “low ball (below cost) bidding,”* which will involve a definition of the costs that are required to be covered, and the sources of information on costs.
- *Auditing of bids*, which would need to be done by a reputable external auditor.

9 Monitoring techniques

A number of monitoring techniques and procedures can be used to ensure that the terms of contracts are properly observed. Many of these will already have been common practice for internal control within monopoly operations of an SOE.

The use of *terminal dispatchers* to ensure regularity is a long established practice in the state owned bus systems of all of many countries. In some Russian cities, as in other countries such as Kyrgyzstan, the dispatchers have been also used to control the departures from terminal of private sector vehicles. While some mechanism to make sure that vehicles operate to schedule is necessary, this does not necessarily require dispatching to remain as a public sector activity. Operators themselves should be responsible for adopting the most effective means to achieve on-schedule running under financial penalties for failure. In some cases where operation on a route has been fragmented amongst many operators, consortia of private operators have already established their own dispatching arrangements in order to fairly share the market between independent operators.

On-route inspection is common even where vehicles are dispatched on schedule as they may depart from schedule because of the vagaries of road congestion. Roving inspectors can check both on vehicle timings and loadings. Within a franchising system roving inspectors can thus be the instrument of monitoring of several aspects of service.

On-bus inspection is commonly used to check that all passengers have valid tickets. This will continue to be the case where services are franchised, though it is likely to be the operator that has the stronger interest in this in net cost contracts and the franchising authority in gross cost contracts. It could be that a city-wide agency (public or private) could give economies of scale, greater independence and possibly anonymity to improve the inspection regime. This might be valuable, particularly if there are many very small operators, but care would need to be taken to ensure that it did not become an unnecessarily inflated service.

Automatic vehicle location systems (AVL) are employed in many cities to exercise control over UPT operations. It is the more traditional “socially-oriented” cities that have been inclined to address UPT issues through technical solutions such as AVL. The implication appears to be that AVL systems are appropriate to large bureaucratic operating organizations but not to more market based situations where there are a larger number of operators, including many smaller operators. That is not

necessarily the case. Modern AVL systems can also be used to help perform the service provision monitoring tasks particularly necessary with gross cost contracts. That would require the central monitoring equipment to be financed by the procuring authority, and for all franchised vehicles to be fitted with the necessary on-board equipment, either at the operator's expense or at the expense of the authority. Where such systems are used it may also be sensible to allow operators to access the system if they wish for purposes of real time control of their vehicles. That facility is made available to operators in London.

Passenger surveys can be used particularly to obtain attitudinal response to the service provided. For example, customer satisfaction of bus travelers in Melbourne, Australia is measured through monthly telephone surveys for eight aspects, aggregated to produce quarterly reports. The customer satisfaction measures are published, but are not used in determining payments or bonus/penalties. In addition, a derived parameter called "passenger weighted minutes" is calculated to better reflect delays that occur at peak periods and/or to heavily loaded vehicles. This measure is then used to calculate the bonus or penalty applied to the operator.

10 Contract enforcement

Poor performance is a sign that some corrective action is needed to ensure that the operator delivers the agreed service quality and quantity. The best approach is to have an escalating set of procedures that try to solve the issues in a mutually agreeable and respectful manner, and to only move to warnings and threat of termination when the operator is clearly unwilling or unable to correct quite serious deficiencies.

The simplest tool is the self-reporting done by the operator. This can be structured so that the information clearly shows the deviations from specified outputs and quality, and required to be signed by chief executive officer of the operator. This can be further supported by the bonus/penalty regime and a monthly payment report to the operator that clearly identifies the deducted payments and their causes. This brings the deficiencies to the attention of the senior management, and a good operator will know that he needs to take corrective action before it is demanded.

Another useful non-confrontational tool is regular service and performance review meetings between the Transport Authority and the operator. These can be short meetings to review the current performance on all routes contracted to an operator, and will examine all relevant reports and monitoring. Again, it brings deficiencies to the attention of the managers in the operating company, sometimes identifying things of which they were not fully aware. This also gives the operator an opportunity to explain any relevant circumstances (e.g. road closures, unexpected demand or conditions) and to identify problems in operating services (e.g. delays at junctions and street sections, problems at terminals or stops). Issues can be minuted and followed-up at the next meeting(s).

If the operator is not taking effective action, then the Transport Authority can either write to the operator expressing concern and requesting corrective action; or they can request a specific meeting to review the problem area. At this level, there is still a positive relationship between Client and supplier, but it is made clear to the supplier that the Client expects action. Most suppliers will take this level seriously, and will try to both correct the situation and to regain the trust of the Client. This level also allows the supplier to explain problems to the Client (e.g. skilled labor shortages, cash-flow problems, unusual levels of equipment failure or accidents) and seek the understanding of the Client in taking a little longer to improve the performance. Good operators are worth keeping, and the Transport Authority should be willing to work through a problem phase if they have confidence that good performance can be achieved for the remainder of the contract life.

The phase of formal warnings and threat of termination should be a measure of last resort. It is actually a breakdown in the collaborative relationship between Client and supplier. The Transport Authority needs to make sure that the contract permits these actions, and should follow the right procedures. There is no point in making threats if they cannot or will not be implemented if the supplier does not comply. This means that the Transport Authority has to be ready to find an alternative supplier for the services, and to handle the transition phase. The cost and disruption of a change of supplier should not be underestimated.

11 Terminating and extending contracts

In the last resort, the authority must have the right to terminate contracts for non-performance. To facilitate this both the invitations to tender and the contract documents must set out the conditions under which termination would be permitted. This may be in terms of persistent failure to supply, infringement of technical standards or convictions for on the road behavior.

Extension of contracts, without re-tendering, has been provided for in a number of countries. Most commonly extensions on initial five year contracts cannot be for more than two or three years without re-tendering. In this way the costs of re-tendering are avoided and good franchisees rewarded. But without re-contracting competitive pressure may be lost. One way of reconciling these contrary effects may be to allow contracts to be continued without re-contracting on the basis of satisfactory performance in the initial contract plus some reduction in real terms in the contract price. In London this is set at 5%. The main requirement of such an arrangement is that the required reduction is set at such a level that there is effective pressure on operators to improve efficiency during any initial contract period.

ANNEX 2 Some options for organization of the passenger transport function

1 Administering passenger transport policy – The Passenger Transport Authority and Executive

Ideally the *area* covered by a Passenger Transport Authority (PTA) should cover the effective geographical area of spatial interaction within a conurbation so that, at least, the bulk of the daily movements of those working within the conurbation come under the purview of the PTA. Where there are several contiguous authorities within a conurbation, as in the Pearl River and Yangtze River Delta regions, it may be necessary to establish a special purpose authority to integrate transport development for the whole conurbation area. The *institutional form* of the PTA will thus depend on the structure of local government. Where only a single municipal jurisdiction exists within the conurbation it may suffice for the PTA to be an agency (Bureau/Commission) of the municipal government.

While the decision of what general size and structure of networks are wanted is inevitably very political, precise routing details and the decision as to who operates them should generally not be. A separation of the detail of contracting from the political process is necessary both to increase the professionalism of the procurement process and to generate confidence in the commercial nature of the competition for franchises. This will require the creation of a concessioning agency at arms length from political control, but acting as the agent of the procuring authority. The agency could have a performance agreement with the political authority, or could be itself contracted out on a management contract basis. Furthermore, management of a competitive procurement system is itself a substantial administrative task. Hence, experience in many countries has shown that it is sensible to have a professional management agency to act on behalf of the municipal government as the procurer of services. In Britain this is called a Passenger Transport Executive (PTE). The nearest equivalent in China is the PT Bureau that used to be responsible just for licensing and fares, and is now gradually being given the responsibility for planning (that was previously with the General Bus Co) and franchising

2 Integrated urban transport strategy – The Strategic Transport Authority

Because public transport needs to be seen in the wider context of the whole land use and transport planning for the city, some cities have created a high level strategic body, often referred to as a Strategic Transport Authority (STA), to bring all transport functions into a single, well managed and focused strategy, consistent with the general development objectives of the city. The STA should ideally be responsible for a number of *functions*, including;

- Developing a land transport policy
- Preparing transport plans, co-ordinating policies for all modes
- Transport infrastructure investment
- Traffic management and safety
- Financial planning for land transport
- Strategy for public transport service procurement

In unitary metropolitan areas, such as Singapore, this Authority is directly responsible to the metropolitan government. Where there are multiple jurisdictions it may be better for the STA to be a separate legal entity governed and strategically controlled by a governing body composed of representatives of the municipalities. For example, most U.S. metropolitan areas have Metropolitan Planning Organizations (MPOs) as forums for co-operative transport decision making among city, county, state and federal authorities.

In Chinese cities overall transport planning and land use planning is done by the Planning Bureau. But there appears to be no agency with responsibility for integrated transport planning, budgeting and management and little real technical integration between transport planning and land use planning. Hence it may be necessary to reconsider the role and responsibilities of the existing Planning bureau in order for them to expand to be efficient strategic authorities.

3 Alternative structural arrangements

There are several different models of PT authorities in those European countries where public transport services are put out to competitive tender.

- In *London*, Transport for London (TfL) is a legal entity, accountable to the Mayor and responsible for delivering an integrated and sustainable transport strategy for London. Key strategic powers rest with the Mayor and operational responsibility with TfL. TfL procures and manages, but does not directly operate, most bus services; it now operates underground rail services; manages the network of strategic roads; is responsible for traffic control throughout London; and regulates taxis. The Mayor sets bus, underground and taxi fares on the advice of TfL and determines how much money is available for procuring tendered services. He obtains his funds partly from transfers from central government, partly from local taxation and partly from the recently introduced road pricing scheme.
- In the *other British metropolitan areas* there is a PTA, composed of councilors from the constituent district level authorities, served by a PTE. The PTAs have rather less strategic power than TfL, and are restricted to public transport management. Entry to the bus industry on a commercial basis is unregulated, but the PTA/PTE can contract operators to supplement the commercial network. The PTE is also the procurer of urban rail services in its area. It works closely with the responsible highway authorities and district councils in providing bus lanes and other priority measures.
- In *most major German cities* there is a “Verkehrsverbund” (equivalent to a PTA) that is jointly owned by the local authorities, regions and states, all of which have some involvement in the financing and management of urban transport. The Verkehrsverbund plans services, sets fares and timetables, markets services, co-ordinates fares integration between modes, and procures bus services from the private sector operators. As in the British metropolitan areas local authorities are responsible for roads and traffic management.

In *Copenhagen*, responsibility for public transport has recently been transferred from an independent legal entity (Copenhagen Transport, HT) to be the Transport Division of the Greater Copenhagen Authority (HUR). HUR determines fares and schedules, as well as setting standards for quality, service and the design of vehicles. Services are procured by competitive tender on a gross cost basis. Presently there are 10 suppliers.