

## **11 CHENGDU BUS PRIVATIZATION PROJECT**

### **11.1 Background and Objectives**

#### **11.1.1 Background**

Since the announcement for the socialist market economy in 1992, the Government of China has been promoting economic reform towards the open economy. One of its important strategies is the privatization of state-owned companies. In the area of urban transport, privatization of public bus companies took place in advanced large cities since late 1990s. Also in Chengdu, a part of the Chengdu Public Transportation Company was merged into a private company, as describe later, as an initial step towards privatization.

In the background of privatization lie the problems for subsidy for financial deficit affecting the budget and of deterioration of public service and productivity. In Chengdu, the subsidy to the Public Transportation Company has likewise increased, reaching RMB 57 million (about USD 7 million) in 1999. This corresponds to about 4% of the total expenditure of the 5 central districts of Chengdu.

The Master Plan Proposed in this study claims the following:

- The basic solution for the current traffic problems in Chengdu is to develop a transport system where public transport plays the central role.
- Although it is imperative to develop a railway network in Chengdu in the long run, bus services should be improved for the time being as a key means of transport considering the long time and huge investment required to construct the railway network.
- Improved bus service should promote the modal shift from car and bicycle to bus.

Based on the above, this project has been proposed, and its feasibility has been studied as explained below.

### **11.1.2 Current Progress of Privatization in Chengdu**

In response to the Government's advocacy for the reform of state-owned enterprises, the Chengdu Public Transportation Company has established a joint venture in 1999 by introducing a private capital from the Media Partner Internet (MPI) of Hong Kong in order to rationalize its management. MPI is an affiliate of a major real property company. The duration of the joint venture is 3 years, and it will be listed in the Hong Kong stock market after that. MPI intends to obtain the capital gain as well as to enter the market of advertisement in Sichuan Province by holding the bus as the media. The Chengdu Public Transportation Company transferred its affiliated Bus Companies No.2, No.3 and No.6, of which financial conditions are relatively good, to the new created Yunxing Company. The joint venture was approved on July 20, 1999 and started operation in January 2000. Its authorized capital is RMB 156.25 million of which 64% or RMB 100 million is from MPI and 36% or RMB 56.25 million is from the Public Transportation Company which provided bus units, buildings and other facilities for the capital. MPI transmitted RMB 60.5 million to the joint venture on November 26, 2000, and the money was used mainly to purchase vehicles and other equipment.

All the existing 34 bus routes operated by Bus Company No.2, No.3 and No.6 were transferred to the joint venture, Yunxing Company. It has 36 routes at present (2 routes were newly opened in February 2000). The number of bus units is 639 at present, coming mostly from Bus Company No.3 (newly purchased buses are still few). The new company has simplified its organization to improve efficiency by reducing manpower. The Chengdu Public Transportation Company transferred about 20 works from each affiliated company and the maintenance / repair factory and about 40 clerical workers from the affiliated companies and itself to the new company, while surplus workers of the new company were absorbed by the Public Transportation Company and other business companies. Yunxing Company pays to the Public Transportation Company RMB 6 million annually for the period of 3 years for the compensation (RMB 3 million as subsidy and RMB 3 million for using facilities such as terminals, bus stops, office, maintenance/ repair factory and employee's residence). The chairman of the new company is from MPI.

The new company targeted an annual profit of RMB 2.8 million for 2000, and actually raised a profit of RMB 4 million. However, this is due to various incentives including reduction of sales tax and local tax and exemption of additional charges totaling to about RMB 10 million. Without these incentives, profitable operation is difficult for the new company. It now requests for the incentives to continue. In addition, the sales from monthly ticket is allocated 53% to the Chengdu Public Transportation Company and 47% to Yunxing Company.

### **11.1.3 Objectives and Scope of the Feasibility Study**

The basic direction for privatization of the Chengdu Public Transportation Company has been discussed in Chapter 8. This chapter aims to analyze the possibility of privatization mainly from the financial point of view, based on the future bus transport demand forecast in Chapter 5. The major issues to be clarified by this analysis include:

- a. Timing and methodology to privatize the Chengdu Public Transportation Company and its affiliated Bus Companies No.1, No.4 and No.5.
- b. Financial situation of Yunxing Company and newly privatized companies.
- c. Conditions to sustain independent and continued bus service as a private business.
- d. Role of government agencies after privatization of bus business.

As a business using private capital, it is desirable to attain a financial sustainability and independence ideally within 5 years or at the latest within 10 years after the establishment of a private company. Hence, this study assumes the timing of privatization in 2003 to 2005, and the period for analysis is up to 2010. Although the traffic demand for bus is largely affected by the opening of the proposed subway(s) after 2010, this is out of the scope of this study because the schedule of subway construction is still quite uncertain and unforeseeable drastic changes will occur in bus routes, operation and other business aspects considering the magnitude of the impact of subway(s).

## 11.2 Planning Environment of the Project

### 11.2.1 Financial Characteristics of Chengdu Public Transportation Company

The Chengdu Public Transportation Company has been recently increasing the number of bus units to expand its bus routes and to increase bus service frequency. Of the 1,493 units owned by the company as of the end-1999, about 2/3 were purchased after 1995. Accordingly, the bus-km operated has been rapidly increasing, and its rate of increase during 1997-1999 has reached 27% (Table 11.2.1). Particularly the large bus has shown an increase at 36%.

Table 11.2.2 is the Profit and Loss Statement of the bus operation department of the Public Transportation Company. Its fare revenue has increased by 1.9 times during 1996-1997 due to the increase of vehicle-km operated and fare amendment upward. On the other hand, its operating expenditure (excluding indirect cost) has increased only by 1.7 times. As such, the sales profit before deducting the administration cost (indirect cost of the Public Transportation Company and its affiliated Bus Companies) has been largely improved to about 13% of the fare revenue. Due, however, to the increase of the administration cost at almost the same pace as the operating expenditure and its large percentage at 27% of the fare revenue (1999), the sales profit cannot cover the deficit corresponding to about 10% of the fare revenue.

**Table 11.2.1 Operational Performance of Chengdu Public Transportation Company**

(1,000 Vehicle-km)

	1997		1998		1999	
Medium-sized Bus	3,789	8.0	3,892	7.1	4,332	7.2
Large-sized Bus	32,994	70.0	38,107	69.9	44,746	74.8
Double Decker	3,220	6.8	7,003	12.9	8,122	13.6
Articulated Bus	7,099	15.1	5,495	10.1	2,599	4.3
Total	47,102	100.0	54,497	100.0	59,799	100.0

Source: Chengdu Public Transportation Company

**Table 11.2.2 Profit and Loss Statement of Chengdu Public Transport Company, 1996-1999**

(Unit: RMB 1,000)

Cost Item	Code	Year			
		1996	1997	1998	1999
1 Operating Revenue	1	111,806	133,249	170,605	211,899
(-) Operating Expense	2	103,746	126,857	143,173	177,585
(-) Business Tax, Value added Tax	4	3,812	4,546	5,808	7,221
2 Operating Profit	5	4,248	1,846	21,624	27,092
(+) Other Profit	6	4,363	8,728	9,125	8,686
(-) Administration Cost	7	33,197	40,764	53,016	56,977
(-) Financial Cost	8	550	925	1,151	740
3 Current Profit	9	-25,136	-31,115	-23,418	-21,939
(+) Investment Profit	10	261			
(+) Subsidy	11			10,180	17,000
(+) Non-operating Income	13	826	2,520	1,870	862
(-) Non-operating Expense	14	1,349	1,350	3,762	1,282
4 Total Profit	16	-25,398	-29,944	-15,130	-5,359
(-) Income Tax	18				
5 Net Profit	19	-25,398	-29,944	-15,130	-5,359

Source: Chengdu Public Transportation Company

Table 11.2.3 is the breakdown of the operating expenditure. The total of labor cost and welfare cost of drivers and conductors shares 46% of the total operating expenditure. Fuel cost and maintenance/repair cost are 17% each. Depreciation cost of vehicles accounts only for 4.4%. This is attributed to the aged vehicles of which depreciation has been completed and to the low book value of vehicles. Depreciation is done basically by the same amount annually over 10 years, however, it is reduced for vehicles of which annual kilometrage is less than 50,000 km. Indirect administration cost which shares 11% of the total includes vehicle washing and cleaning cost and other miscellaneous expenses.

**Table 11.2.3 Operating Expense of Chengdu Public Transport Company**

Cost Item	Code	Unit Cost (000RMB/Km)			Cost (000RMB/Year)		
		1997	1998	1999	1997	1998	1999
Labor Cost	1	1,040.7	975.3	1,205.0	49,020	53,150	72,057
Welfare Cost of Driver & Conductor	2	135.3	138.2	157.3	6,372	7,533	9,404
Fuel Cost	3	540.9	458.6	498.4	25,478	24,992	29,803
Tire Cost	4	38.3	39.6	40.1	1,802	2,160	2,399
Maintenance & Repair Cost	5	438.9	461.2	507.0	20,674	25,132	30,318
Depreciation	6	86.0	83.3	130.9	4,049	4,539	7,830
Accident Cost	7	124.4	161.0	112.0	5,861	8,773	6,700
Indirect Administration Cost	8	288.8	310.0	319.0	13,602	16,896	19,074
Total	9	2,693.3	2,627.2	2,969.7	126,857	143,173	177,585

Source: Chengdu public Transportation Company

The deficit in operation and investment is supplemented by subsidy from the Government. Table 11.2.4 shows this subsidy during the last 3 years. Although 100% is subsidized for purchase of vehicles, self-financing may be done for the vehicle acquisition beyond the budget. The subsidy for terminal construction is to finance the land acquisition, and buildings and facilities are shouldered by the Public Transportation Company.

These subsidies are recorded in the balance sheet as assets. The amount of the subsidy to supplement the deficit in operation is assessed and decided by Public Utilities Bureau, Construction Committee and Finance Bureau based on the statement of accounts submitted to the Public Utilities Bureau. The total amount of this subsidy was RMB132.88 million for the period 1997-1999, of which RMB 25.19 million or 19% was the refund of taxes paid and 81% was provided by the general budget of the Government.

**Table 11.2.4 Subsidies to Public Transport Company**

(RMB 1,000)

Kind of Subsidy	1997	1998	1999
Purchase of Bus	9,000	10,000	18,000
Terminal Construction	9,000	17,700	22,000
Financial Deficit Cover	20,000	10,180	17,000
Total	38,000	37,880	57,000

Source: Chengdu Public Transportation Company

Table 11.2.5 shows the profit and loss statement of 1999 for the Public Transportation Company and for each of its affiliated Bus Companies. Only the Public Transportation Company shows a profit of RMB 1.56 million while all the affiliated Bus Companies show a deficit. The major revenue source for the Public Transportation Company is the sales from monthly tickets which are sold at 100 thousand per month on average. Since the average percentage of monthly ticket users is about 25%, the affiliated Bus Companies transport passengers one out of four without any revenue for themselves. However, it may be regarded as the bus rental fee paid to the Public Transportation Company which shoulders the bus vehicle cost.

Figure 11.2.1 compares some financial indicators of the affiliated bus companies to analyze their financial characteristics. Except for No. 2 and No. 4 Company, the deficit increases in proportion to the vehicle-km operated. The deficit is RMB 4,000 per 1,000 km on average. Judging from this fact, the operational deficit is considered to be structural. No. 2 Company performs exceptionally well while No. 4 Company does not.

Fare revenue per vehicle-km, which is an obvious indicator of financial performance, is RMB 3.5 on average with the best at 4.0 (No. 2 Company) and the worst at 2.7 (No. 4 Company). Table 11.2.5 clearly shows that each affiliated Bus Company produces a sales profit with fare revenue covering the direct expenses but is unable to cover the administration cost. The administration cost accounts for 27% of the fare revenue on average. However, this ratio is high for No. 4 Company at over 40%.

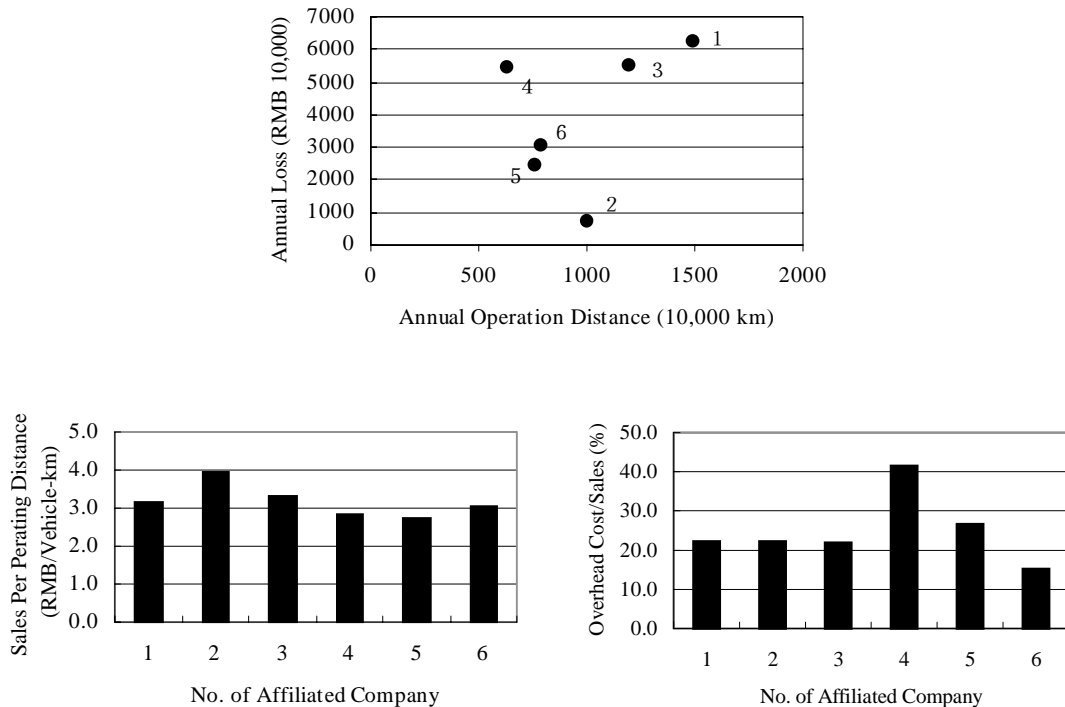
**Table 11.2.5 Sales Profit and Fare Revenue of Affiliated Bus Companies**

(Unit: RMB 1,000)

Cost Item	Code	Affiliated Bus Company						Public Transportation Company	Total
		No.1	No.2	No.3	No.4	No.5	No.6		
<b>1 Operating Revenue</b>	<b>1</b>	<b>46,752</b>	<b>39,697</b>	<b>40,005</b>	<b>17,698</b>	<b>20,546</b>	<b>23,878</b>	<b>23,323</b>	<b>211,899</b>
(-) Operating Expense	2	42,380	30,271	35,413	15,258	16,833	22,528	14,903	177,585
(-) Business Tax, Value added Tax	4	1,599	1,358	1,368	605	703	817	772	7,221
<b>2 Operating Profit</b>	<b>5</b>	<b>2,774</b>	<b>8,069</b>	<b>3,224</b>	<b>1,835</b>	<b>3,011</b>	<b>533</b>	<b>7,648</b>	<b>27,092</b>
(+) Other Profit	6	1,369		16	29		7	7,266	8,686
(-) Overhead Cost	7	10,398	8,833	8,756	7,352	5,479	3,624	12,535	56,977
(-) Financial Cost	8	-11	-14	-14	-7	-8	-23	818	740
<b>3 Current Profit</b>	<b>9</b>	<b>-6,244</b>	<b>-750</b>	<b>-5,503</b>	<b>-5,481</b>	<b>-2,460</b>	<b>-3,061</b>	<b>1,561</b>	<b>-21,939</b>
(+) Investment Profit	10								
(+) Subsidy	11							17,000	17,000
(+) Non-operating Income	13	1	1		1	146	27	685	862
(-) Non-operating Expense	14	388		109	27	11	1	746	1,282
<b>4 Total Profit</b>	<b>16</b>	<b>-6,632</b>	<b>-749</b>	<b>-5,613</b>	<b>-5,507</b>	<b>-2,325</b>	<b>-3,035</b>	<b>18,500</b>	<b>-5,359</b>
(-) Income Tax	18								
<b>5 Net Profit</b>	<b>19</b>	<b>-6,632</b>	<b>-749</b>	<b>-5,613</b>	<b>-5,507</b>	<b>-2,325</b>	<b>-3,035</b>	<b>18,500</b>	<b>-5,359</b>

Source: Chengdu Public Transportation Company

**Figure 11.2.1 Financial Indicators of the Affiliated Bus Companies**



As an entity including the Public Transportation Company and its affiliated Bus Companies, the total administration cost and sales profit are RMB 57 million and RMB 27 million, respectively. Thus, if the administration cost can be compressed to one half, the revenue and expenditure become balanced as a whole. Although the productivity of administration is hardly raised double, it is essential for rationalizing the administration of bus business as the labor cost shares a large percentage there. Table 11.2.6 is the 1999 balance sheet of the entity of the Public Transportation Company and its affiliated Bus Companies. As a characteristic of state-owned company, its own capital ratio is high at 54%. However, the floating asset/debt ratio is low at 66% reflecting the deficit-making tendencies. As a private company, stability may become the problem.

**Table 11.2.6 Balance Sheet of Chengdu Public Transport Company**

(Unit: RMB 1,000)

Item	Code	Year			
		1996	1997	1998	1999
<b>Asset</b>					
<b>Current Asset</b>					
Cash, Bank Deposit	1	19,189	16,241	25,502	34,969
Gross Receivables	4	658	4	14,145	39,339
Uncollectables				935	836
Net Receivables	6	658	4	13,210	38,504
Advance Payment	7				12,700
Other Accrued Revenue	9	32,181	28,902	35,391	
Stock	10	3,932	6,025	6,655	7,979
Unpaid Expense	11	1,199	792	902	2,755
Unsettled Loss	12	183			4,187
<b>Total Current Asset</b>	<b>15</b>	<b>57,342</b>	<b>51,963</b>	<b>81,658</b>	<b>101,093</b>
<b>Investment to Durable Property</b>	<b>16</b>	<b>6,079</b>	<b>5,629</b>	<b>2,585</b>	<b>10,792</b>
<b>Fixed Asset</b>					
Cost of Fixed Asset	17	216,077	313,048	329,005	350,571
(-) Accumulated Depreciation	18	44,879	45,911	48,416	52,985
Net Fixed Asset	19	171,198	267,137	280,589	297,586
Disposed Fixed Asset	20	2,458	2,496		5,668
Asset under Construction	21	9,625	11,133	19,570	27,635
<b>Total Fixed Asset</b>	<b>23</b>	<b>183,280</b>	<b>280,765</b>	<b>300,159</b>	<b>330,889</b>
<b>Intangible Asset</b>					
Intangible Asset	24	4,720	19,765	18,043	11,457
Deferred Asset	25	21		646	666
<b>Total Intangible Asset</b>	<b>27</b>	<b>4,740</b>	<b>19,765</b>	<b>18,688</b>	<b>12,123</b>
<b>Other Durable Asset</b>	<b>28</b>		<b>100</b>		
<b>Total Asset</b>	<b>30</b>	<b>251,441</b>	<b>358,221</b>	<b>403,090</b>	<b>454,897</b>
<b>Liability and Capital</b>					
<b>Current Debt</b>					
Short-term Loan	31	7,857	15,857	16,657	16,657
Demand Loan	33	2,337	3,216	1,887	55,262
Advanced Received	34	8,759	12,919	10,669	15,389
Other Demand Payables	35	54,102	61,154	53,001	
Unpaid Salary	36	11,070	10,531	13,375	17,481
Unpaid Welfare	37	-809	841	2,688	5,039
Unpaid Tax	38	8,303	11,849	16,392	21,658
Other Unpaid	40	4,484	3,092	18,975	22,727
<b>Total Current Debt</b>	<b>44</b>	<b>96,102</b>	<b>119,460</b>	<b>133,644</b>	<b>154,214</b>
<b>Long-term Debt</b>					
Long-term Loan	45	1,097			
Demand Loan	47				36,025
Other Long-term Loan	48	11,861	17,602	48,984	17,812
of which, deposit for housing	49	11,861	6,587		17,812
Total Long-term debt	51	12,958	17,602	48,984	53,837
<b>Total Liability</b>	<b>53</b>	<b>109,060</b>	<b>137,061</b>	<b>182,627</b>	<b>208,051</b>
<b>Capital</b>					
Paid-up Capital	54	99,219	56,724	56,635	56,635
Reserve for Public Capital	55	81,382	218,640	226,572	250,693
Accumulated Profit/Loss	56	-172	-163	379	
Unsettled Profit	58	-38,049	-47,993	-63,123	-60,482
<b>Total Capital</b>	<b>59</b>	<b>142,381</b>	<b>227,209</b>	<b>220,463</b>	<b>246,846</b>
<b>Total of Liability and Capital</b>	<b>60</b>	<b>251,441</b>	<b>364,270</b>	<b>403,091</b>	<b>454,897</b>

Source: Chengdu Public Transportation Company



### 11.2.2 Assessment of Bus Fare System

Average trip length will become longer as urban area expands in the future. As a result, there comes out a tendency that bicycle use becomes relatively difficult while bus use increases. As shown in table 11.2.7, the present proportion of bicycle trips and bus trips is 77:23. If bus service remains at the current level, the increase of bus share will be quite marginal in the future. If all proposed measures of the Master Plan are implemented, however, the above proportion will be 55:45 in the future in favor of bus use. Although this is theoretical, this becomes realistic when necessary policy/institutional measures are taken.

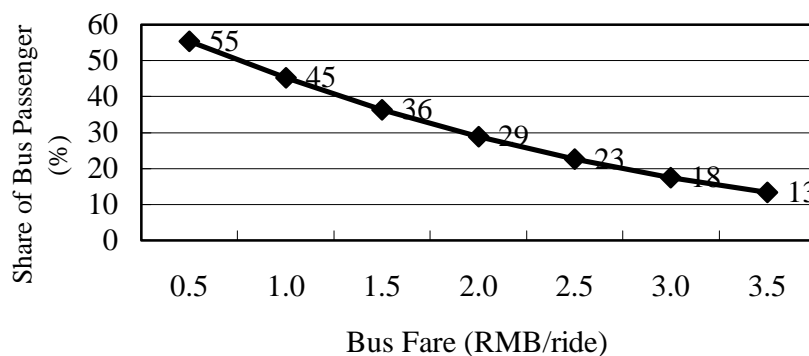
The share of bus above mentioned was forecasted assuming there are no change in bus fares in real terms. Hence, the bus share will further increase than predicted if bus fares are lowered in real terms, and will decrease on the real increase in bus fares. Figure 11.2.2 shows the bus shares estimated by the Modal Split Model on various levels of future bus fares.

**Table 11.2.7 Proportion Bicycle and Bus Trips**

(Unit: %)

Transport Mode	2000	2010	
		Do Nothing Case	Masterplan Case
Bicycle	77	73	55
Bus	23	27	45
Total	100	100	100

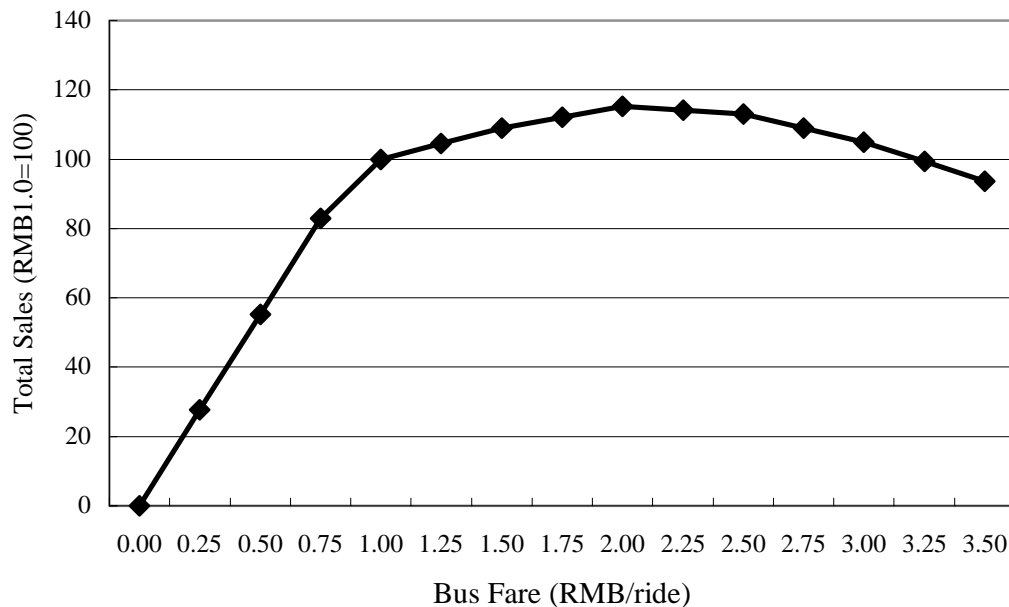
**Figure 11.2.2 Bus Shares Estimated by the Modal Split Model**



The figure above indicates that the bus share in 2010 will be 45% on the current bus fares, will increase to 55% on the half level of the present and will decrease to 29% canceling the effect of the shift towards bus use if bus fare doubles.

Figure 11.2.3 illustrates the total fare revenue of bus for varied levels of bus fare. The total revenue becomes maximum at RMB 2/ride. However, the increase in fare revenue is only by 18% from the current bus fare level of RMB 1/trip. If bus fare is raised to this level, traffic congestion will be worse and parking problems will become serious due to the increase of bicycle and car use. Bus fare should not be raised easily only to increase the fare revenue.

**Figure 11.2.3 Total Bus Fare Revenue for Various Levels of Bus Fare**



### **11.3 Fundamental Framework to Guide Bus Privatization**

The development directions of Chengdu's bus services, which consist of privatization project objectives and expected roles of public and business sectors, are illustrated in Figure 11.3.1.

#### **11.3.1 Objectives of the Bus Privatization Project**

##### **(1) To play a more important role in the future urban transport system**

The study's M/P indicated that not only Chengdu's transportation demand will increase but the average travel distance will become longer in the near future as well. If this indeed happens, walking and riding bikes that are widely practiced now will be considerably lessened. Thus, bus service will play a more important role in the future of urban public transportation which will serve as the backbone of public transportation system in Chengdu. Main objectives in the public transport development are to control private vehicles and traffic congestions in the short-term and to establish a subway-cum-bus urban transport system in the long-term.

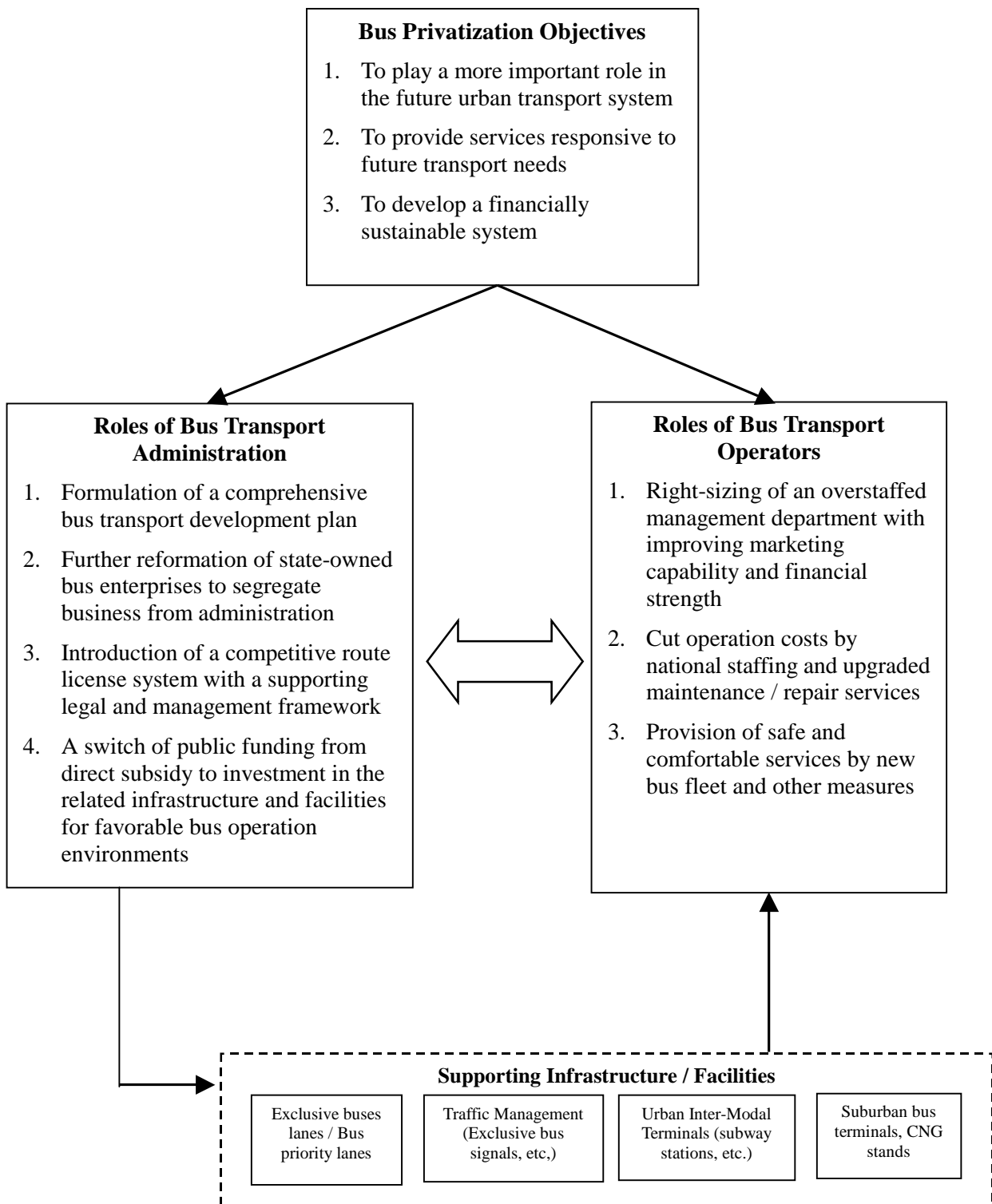
##### **(2) To provide services responsive to future transport needs**

Chengdu's bus services will need both fleet expansion and quality improvement. First, as a basic public transport means, it must provide the necessary mobility for the people of Chengdu. Ensuring this mobility requires not only fleet expansion but accessibility (i.e. installation of accessible bus terminals) and affordability (i.e. reasonable fare setting) as well. Further, increasing the income level of bus services shall require better public transport services. To compete with the private transport, premium bus services such as air-conditioned bus and express bus on exclusive bus lanes will be provided.

##### **(3) To develop a financially sustainable system**

In general, public services are provided under a beneficiaries' pay principle. The leniency of subsidy from public finance increases the dependency of bus operators on bus administration. On the other hand, this attitude is insensible of passengers' needs. Public financial support should concentrate to justifiable needs where the amount will be accountable. What is important therefore is to develop a financially sustainable system for bus operation business.

**Figure 11.3.1 Framework for Bus Privatization**



### **11.3.2 Role of Bus Transport Administration**

**(1) Formulate a comprehensive bus transport development plan where priority is given to bus.**

Like in many other countries, big cities in China stress the need for the development of public transportation as a priority project. The Ministry of Construction, in its 1990 publication “Action Project on Implementation of Urban Public Transportation Policies”, indicated its decision to: a) develop the urban public transportation, b) control the vehicles’ traffic flow to cities and c) manage the possession of urban vehicles. For its part, Chengdu has up to this day implemented many relevant policies. However, analysis of these temporary policies indicates the necessity of working out a comprehensive bus transport plan according to the medium-term planning framework.

**(2) Further reform state-owned bus enterprises to segregate business from administration.**

Fortune and Prosper Corporation founded in 2000 is the first attempt at separating bus administration and enterprises in Chengdu. However, the present General Transport Corporation is the temporary form during the transitional period of privatization with the rest of the subsidiaries not yet being operated privately. For example, equitization is an efficient way to form a company’s independent operation and to disclose information to shareholders. But until now, there are many positive and negative assets to be assessed in the enterprises’ balance sheets (e.g. route operation right, present and future debts, etc.). Chengdu government should set a clear direction on bus enterprise’s proper condition by the use of municipal regulations and it should also work out some specific measures to separate bus administration and enterprises completely.

**(3) Introduce a competitive route license system with a supporting legal and management framework.**

In bus administration, the formalities of registering and selecting bus operators are very important. Possible options in a city are as follows: (1) monopolized by one operator, (2) route area franchising by one or several operators in a certain period and (3) free competition (route service, fare, etc.) by registered operators who meet certain qualifications. If bus administration considers the need for supply and demand adjustment under its fare policy, it must choose either (1) or (2). However, options (1) and (2) must release subsidy or reduce tax when no operator applies for a specific route. On the contrary, subsidy is indispensable for urban bus operation thus option (3) may not be feasible. Option (3) must therefore provide a level playing field among state-owned and private operators.

It is however very difficult to sustain the urban bus enterprises without subsidy in Chengdu. The government is exerting every effort to increase the enterprise’s profit.

This condition further makes option (3) not feasible to implement. In addition, in the implementation of option (1), suppose that the development of bus enterprises would rely only on the instructions of bus administration leaders' individual ability, it will be very difficult to systematize these kinds of instructions. Institutionalization therefore is very important when a competition principal is duly incorporated into a route / area franchising scheme.

**(4) Switch public funding from direct subsidy to investment in the related infrastructure and facilities in order to create favorable bus operation environments.**

In the administration-and-enterprise-one-body age planned economy, state-owned enterprise is the executive force of administration. For some past reasons, when Chengdu General Corporation provides the public transportation service, it also develops and maintains relevant facilities, run some relevant enterprises (e.g. freight service, taxies, advertising etc.). In addition, Chengdu government subsidizes bus operation deficits and releases subsidy to General Corporation under the name of relevant facilities and purchasing vehicles. However, in order to develop orderly and competitive bus business environments, bus administration should transfer its focus from giving bus enterprises financial support directly to creating a better bus business environment.

### **11.3.3 Role of Bus Transport Operators**

**(1) Right-sizing an overstuffed management department with improving marketing capability and financial strength.**

The total number of employees of Chengdu General Transport Corporation and its branches in 1999 is 9,727 with a fleet of 1,493 buses. This means that there are 6.5 employees for every bus of the corporation which is smaller than the national rate of 8.8 employees per bus. But it is greater than that of the cities which have recently carried out their respective bus privatization projects, (e.g., 4.8 employees per bus in Nanjing and 3.8 employees per bus in Guanzhou). The bus enterprises in Chengdu is apparently overstuffed and should be right-sized in both management and operation departments. To implement right-sizing in the management department, unprofitable subsidiary businesses will be eliminated and the supervision of bus operation will be transferred to bus administration.

On the other hand, since the public transportation business is shifting to a competitive environment, as a preparatory exercise, it is necessary to advance its marketing ability. The future subsidy shall only be used to pay for the supply filling of limited public transportation service. Keeping the business afloat and supporting expansion in investments of public transportation enterprises may be sustained by capital acquisition from investors buying stock offerings and through the reduction of operating costs.

**(2) Cut bus operation costs by means of rational staff assignment and upgraded maintenance / repair services.**

In the operations department, overstaffing may be addressed by certain measures such as the improvement of the bus' efficiency and selling tickets without conductor. In Chengdu, some of the buses are implementing the one-man bus. When the fare-receiving system is improved, the one-man bus should be further popularized. To improve bus operation efficiency, several measures can be adopted such as fleet scrapping and modernization, suburban terminals with workshops, nighttime maintenance / repair works.

**(3) Provide safe and comfortable services by new bus fleet and other means.**

The analysis of the Study indicates that there is still a lot of need to improve Chengdu's bus service. Specifically, the necessary improvements are as follows: 1) operating cost reduction; 2) operating ability and 3) increase in the degree of comfort and convenience. On the other hand, the purchasing of new vehicles on subsidy and the too low depreciation impedes the improvement of vehicles. The subsidy for new vehicles will be stopped in future. Therefore, it is necessary to start the practice of computing for vehicle depreciation as part of the company's operation cost, with this cost factor becoming more and more important. According to the General Transport Corporation's financial report on loss and profit, the fleet depreciation is 4.4% of the total business expenses which is very low. This is mainly caused by the too long vehicle duration distance of 800,000 km which was fixed in 1970s at a very low vehicle depreciation rate. Though it is related with the national accounting system, as for the calculation of the public transportation enterprises operating in Chengdu, it is necessary to use the proper vehicle depreciation factor to allow for vehicle replacement on a regular basis.

## 11.4 Financial Analysis on the Chengdu Bus Prioritization Project

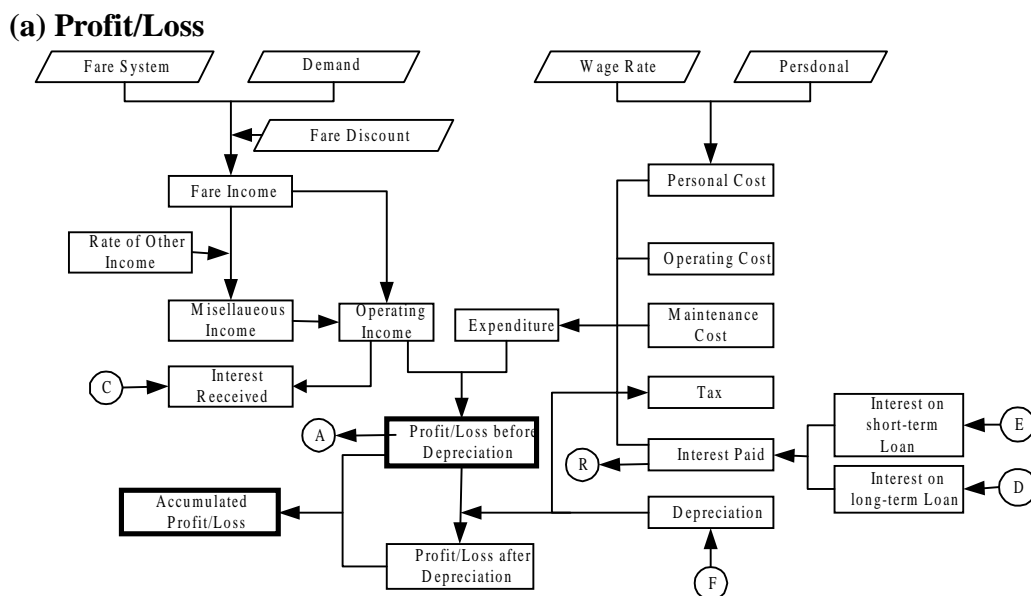
### 11.4.1 Financial Model for Chengdu Bus Company

A financial model was developed to simulate the financial conditions of Chengdu Public Transportation Company after its privatization. The model's structure is illustrated in Figure 11.4.1. Main outputs of the model are three financial statements, as follows:

- Profit/loss statement is for estimating the annual profit or loss by deducting expenses and taxes from revenue.
- Cash flow statement is for estimating annual surplus or deficit by deducting cash out flow such as operating expenses, investment, interest paid, tax payment, and dividend from cash inflow such as capital, operating income, borrowing, and interest received.
- Balance sheet is for assessing the financial stability and soundness of the company by comparing assets with liability and capital at the end (or at the beginning) of a fiscal year.

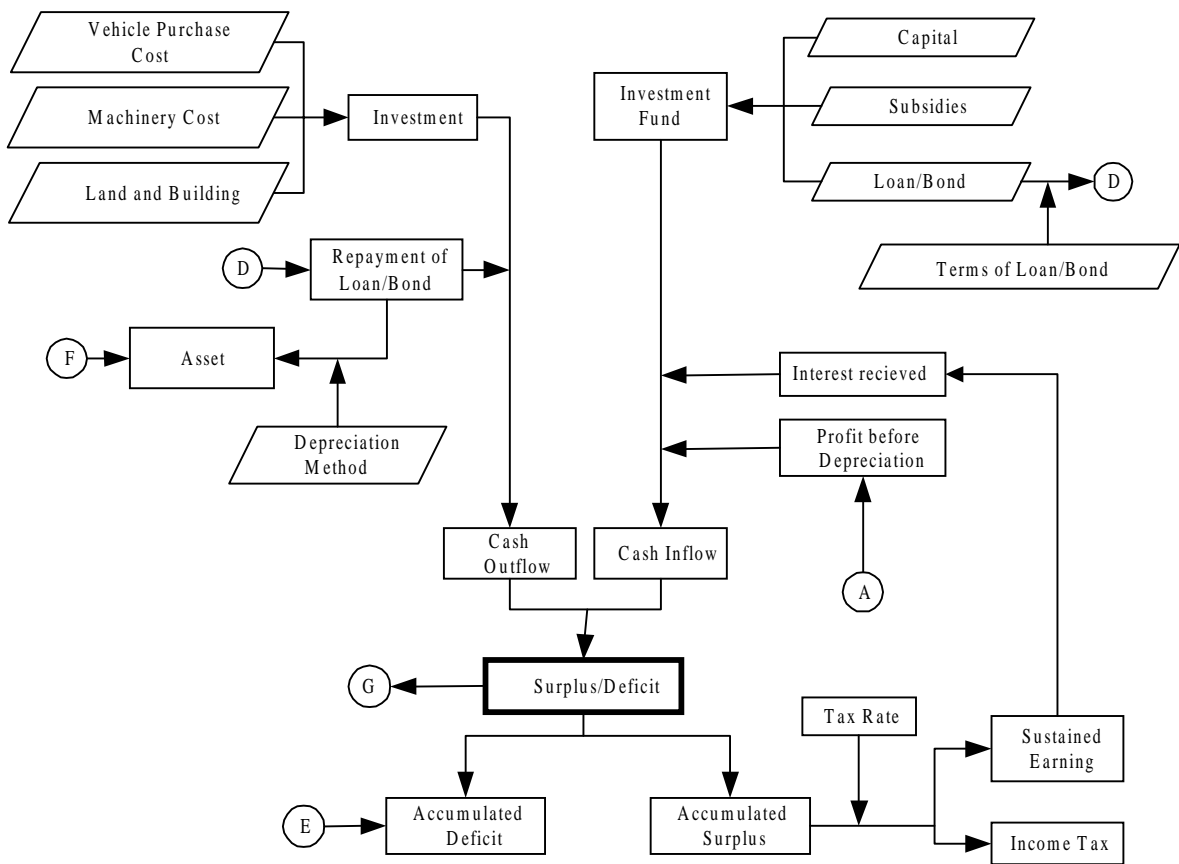
As the figure shows, these three statements are mutually related through input and output and then calculation has to be done year by year. In general, main purpose of financial analysis on a project is to clarify profitability and soundness in cash flow of the project. In the case of this project, the profitability analysis will be more important because any private fund will not flow toward any project without a certain level of profitability.

**Figure 11.4.1 Structure of Financial Model**

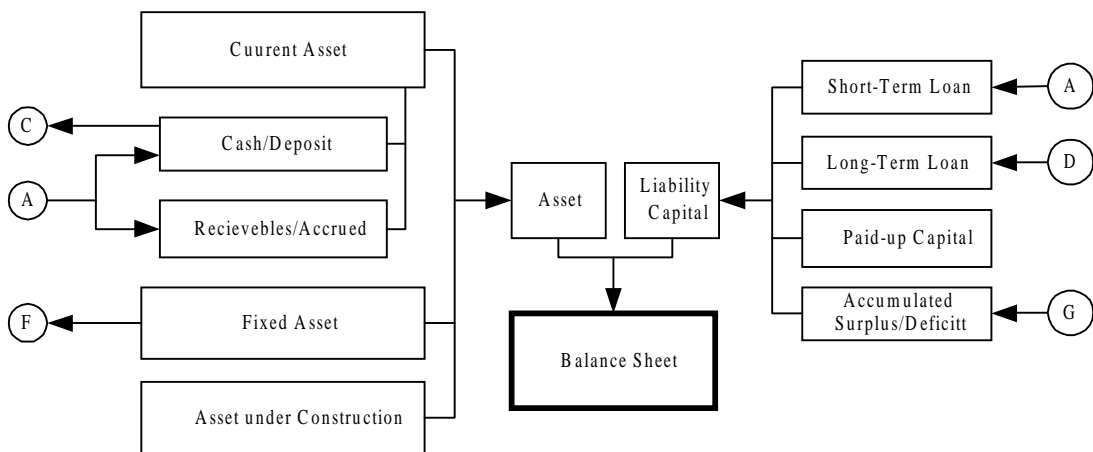




**(b) Cash Flow**



**(c) Balance Sheet**



## **11.4.2 Preconditions and Assumptions for Financial Analysis**

As the affiliated bus companies of No. 2, 3 and 6 have been already incorporated into Yunxing Transport Company, the focal point is to analyze if the remaining three companies of No. 1, 4 and 5 can be financially viable after being privatized. And if not viable, what measures can be implemented to make them viable. As the process of privatization goes, each affiliate company can be privatized individually or two of these companies can also be jointly privatized. In these cases, however, the worst performing company will remain in the public sector with less possibility for privatization. Therefore, it is assumed in this analysis that the remaining three companies will be privatized all together into one company which is referred to as the New Bus Company.

### **(1) Company Type**

Regarding the type of the New Bus Company, two cases are considered:

- Case 1: New Bus Company is established as a joint company with another private company by introducing private capital.
- Case 2: New Bus Company is established only with the own capital of the three companies.

Both cases will be analyzed here. In Case 1, the three companies will offer their fixed assets as their equity share and the private company will provide the capital of 1.5 times of the fixed asset value. (Equity Ratio of Three Company and Private Company is 40:60). As in the case of Yunxing Company, total capitalization amounted to about RMB 200 million.

### **(2) Demand Increase and Necessary Fleet**

Future demand for each bus line has been estimated by assigning future OD trips by bus on the present bus lines. Based on the result, an increase in demand and required bus fleet is estimated as shown in Table 11.4.1. Assuming that the bus fleet should be increased at the same rate of operating vehicle-km, bus fleet size of all bus companies including Yunxing Transport Company should be expanded 1.94 times during 1999–2010. In the same period, bus passengers will increase 2.4 times. This means the operation efficiency of bus fleet will rise by 1.23 times which results in improvement of financial conditions of the bus operation business and thus makes privatization easier. The improvement of operation efficiency of the three remaining companies is 1.28, slightly higher than 1.22 of Yunxing Transport Company.

Table 11.4.2 shows the number of buses that the New Bus Company has to acquire (exclusive of suburban buses and mini buses). All the newly introduced buses are assumed to be equipped with a CNG engine and 10% of them are deluxe buses with air-conditioner (at RMB 350,000 per unit) and others are regular buses with 42 seat (at RMB 150,000 per unit). By year 2010, about 2,400 buses have to be newly acquired and is estimated at RMB 46 million.

**Table 11.4.1 Demand Increase and Necessary Bus Fleet**

Item	1999	2010	Growth Rate(2010/1999, times)		
			Total	New Bus Company	Yunxing Bus Company
Demand (1,000 pax/day)	582	1,397	2.40	2.14	2.64
Operating Bus-Km (1,000)	164	321	1.95	1.67	2.16
Necessary Bus Fleet	1,245	2,428	1.95	1.67	2.16

**Table 11.4.2 Bus Acquisition Plan for the New Bus Company**

(Unit: Bus unit, RMB Million)

Year	Fleet for Operation	Spare Bus (3%)	Total Fleet Required	Annual Increase	Replace-ment	Annual Bus Acquisition		Necessary Fund (RMB Million)	
						w/ Air Con.	w/o air Con.		
1	2001	1,331	40	1,371	89	117	21	185	35.1
2	2002	1,423	43	1,466	95	117	21	191	36.0
3	2003	1,521	46	1,567	101	117	22	196	37.1
4	2004	1,626	49	1,675	108	117	23	202	38.4
5	2005	1,738	52	1,790	115	117	23	209	39.4
6	2006	1,858	56	1,914	124	117	24	217	41.0
7	2007	1,986	60	2,046	132	117	25	224	42.4
8	2008	2,123	64	2,187	141	117	26	232	43.9
9	2009	2,270	68	2,338	151	117	27	241	45.6
10	2010	2,428	73	2,501	163	117	28	252	47.6
Total	-	-	-	-	1,219	1,170	240	2,149	406.4

### (3) Personnel Cost

As a condition for privatization, number of workers has to be reduced as is done with the Yunxing Transport Company. Reduction rate is assumed at 30% for administrative personnel and 10% for others. By adopting one-man bus system, conductors shall be retrenched in the next 5 years at the rate of 20% per annum. The New Bus Company shoulders the separation pay which shall be equivalent to two years salary. On the other hand, workers have to be increased as the fleet increases. For each 10% increase of fleet, administrative and clerical personnel are assumed to increased by 2%, mechanics by 5% and drivers at 10%.

Average annual wage is assumed at RMB 17,500 for managers, RMB 11,900 for drivers, RMB 10,500 for mechanics and RMB 11,000 for clerical workers, conductors and others. Table 11.4.3 shows the number of workers of Chengdu Public Transport Company as of 1999 (breakdown to Bus Companies No.1, 4, 5 and Yunxing Transport Company is estimated by the Study Team.).

**Table 11.4.3 Number of Workers of Chengdu Public Transport Company**

(Unit: Person)

Class		No. of Workers		
		No. 1,4,5 Companies	Yunxing Bus Company	Total
Administ- ration	Staff	435	364	799
	Managerial	810	60	870
Driver		1,547	1,294	2,841
Conductor		1,259	1,052	2,311
Maintenance		802	670	1,472
Workshop Worker		315	264	579
Others		464	388	852
<b>Total</b>		<b>5,632</b>	<b>4,092</b>	<b>9,724</b>

Source: Chengdu Public Transport Company

**(4) Vehicle Operating Cost**

The average of operating cost in Chengdu Public Transport Company is about RMB 3.0 / vehicle-km inclusive of labor cost. If excluding labor cost, it is estimated at RMB 1.6 / vehicle-km.

**(5) Depreciation**

Buses are depreciated in 10-year straight line with 20% residuals. Existing fleet is depreciated and replaced at 8% per annum in 10 years. Other fix asset such as buildings is depreciated in 30-year straight line without residuals.

**(6) Loan**

Long-term loan for bus purchase is assumed to have 8 years repayment scheme, with 2 years grace period at an interest rate of 4.5%. Short-term loan for operating fund has 5.85% interest rate, assuming a sooner repayment schedule as soon as the cash flow allows.

**(7) Tax**

The following taxes are assumed. The official company classification for the deemed monthly sales is RMB 5,500 for the first category, RMB 3,500 for the second category and RMB 2,200 for the third category, respectively.

- Business Tax: 3% of deemed sales
- City Planning Tax: RMB 360/unit / year
- Road Maintenance Tax: RMB 420/unit /year
- Value-added Tax: 10% of deemed tax

### **11.4.3 Results of Financial Evaluation**

#### **(1) Case of No Protective Measures**

For the first case, analysis is made assuming there is no supportive measure such as subsidiaries and tax exemption that will be extended by the government. The trend of the accumulated balance of the New Bus Company is shown in Figure 11.4.2 (1). In Case 1 of the joint company, the balance will turn from negative to positive in the seventh year from the start and accumulated deficit will be covered in the 14<sup>th</sup> year. The accumulated surplus will reach RMB 51 million in 2020 (see also Table 11.4.4). This may be the marginal profitability which can attract interest from private capital. During the 6<sup>th</sup> year, the amount of short-term loan will be the maximum of RMB 42 million which may be not difficult to borrow, as compared with the size of annual income.

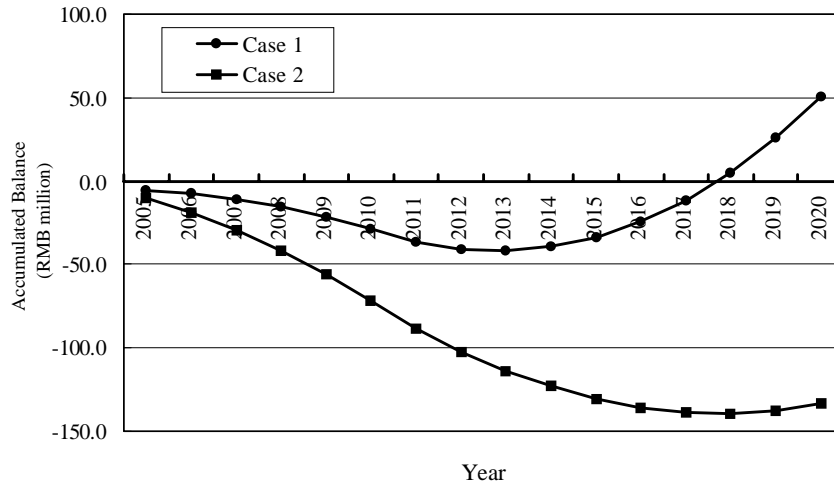
In Case 2, on the other hand, the deficit will constantly become larger, although a sign of improvement appears after 15 years. In 2020, the deficit will exceed RMB 130 million. It is concluded therefore that privatization will be unsuccessful and impossible if there will be no increase in capitalization, unless there will be some safety nets measures that will be implemented by the government.

#### **(2) Case of 5 Year Tax Exemption and Subsidy to Dismissal Allowance**

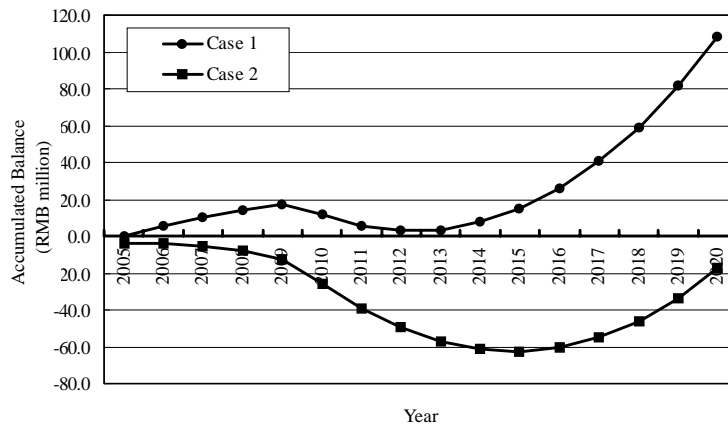
Yunxing Transport Company is exempted from tax for the first three years. Considering that the New Bus Company will be in a more difficult financial situation than Yunxing Transport Company, this tax exemption period is assumed for 5 years. In addition, separation pay will be subsidized and in this case, the accumulated balance is shown in Figure 11.4.2 (2).

**Figure 11.4.2 Trend of Accumulated Balance of New Bus Company**

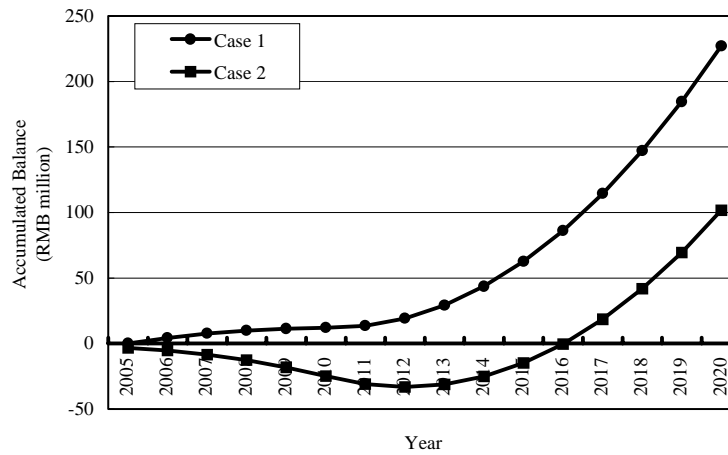
**(1) No Protective Measures**



**(2) Five-years Tax Exemption and Subsidy to Separation Pay**



**(3) Five-Years Subsidy to Bus Acquisition**



**Table 11.4.4 Summary of Evaluation**

Case		First Year of Positive Balance	First Year of Acct'd Positive Balance	Max. Acct'd Deficit (RMB Million)	
Case 1	1	No Protective Measures	10 th year	14th tear	42
	2	Five-years Tax Exemption and Subsidy to Lay-off Allowance	2nd year	2nd year	0.2
	3	Five-Years Subsidy to Bus Acquisition	-	-	-
Case 2	1	No Protective Measures	15th year	-	140
	2	Five-years Tax Exemption and Subsidy to Lay-off Allowance	12th year	-	62
	3	Five-Years Subsidy to Bus Acquisition	9th year	13th year	33

In Case 1, the annual account will be negative at RMB 0.2 million only in the first year and in the next year, this will be covered. Since then, the accumulated surplus will grow constantly, reaching RMB 108 million in 2020. It may be possible to look for a private company to join in this project, although the capital rotation is not so fast and then the company is not highly profitable for a private company. In Case 2, deficit will last until 2015, reaching RMB 62 million and then decrease to RMB 17.5 million in 2020. This result is not favorable for privatization.

**(3) Case of 5 Year Subsidy to Bus Acquisition**

Currently, the Chengdu Public Transport Company is fully subsidized for its fleet expansion with an exception of a self-financed few units. Assuming full subsidy to bus purchase for the first 5 years, the accumulated balance of the New Bus Company is shown in Figure 11.4.2(3). In this case, total amount of subsidy will be RMB 186 million for five years.

In case 1, there is no year with deficit and the accumulated balance will be RMB 12 million in 2010 and RMB 227 million in 2020. This condition is more favorable for the company than that in above (2). In case 2, the annual balance will turn to positive in 2013 and the accumulated deficit will be covered in the 13<sup>th</sup> year (year 2017). The surplus of RMB 102 million will accrue to the company in 2020. Instead of taking the subsidiary measure, the same result can be attained by introducing a private capital of RMB 186 million.

**(4) Return on Equity**

Case 1 stated above assumes introduction of private capital to the new bus company. Profitability of the investment to the bus business will be roughly examined here, from the viewpoint of private investors. Capital from the private sector is assumed at RMB 120 million, 60% of total. On the other hand, returns to the investors are dividend and assets of the company.

It is assumed that maximum dividends are paid as long as the cash flow allows (under the limit which enables scheduled repayment of long-term loans for bus acquisition) at a constant amount annually. Company's assets are simply estimated as the residual value of buses deducting the amount payable of the long-term loan in 2020. The investors' share is also 60% of total.

The IRR on equity under three cases of (1) to (3) are estimated as shown in Table 11.4.5. Without any preferable conditions, IRR is negative which means investors will lose and then, no private capital will be offered to the project. Under the condition of (2) tax exemption and subsidies to retirement allowance, IRR is 5%, not high enough to encourage investors. In the Chinese capital market, at least 10% of IRR will be demanded for this kind of project. The condition of (3) subsidies to bus acquisition for the first five years results in high IRR of 16.5%. Thus, it is clear that this project of privatization requires some fostering measures in the early stage.

**Table 11.4.5 Maximum Dividend and IRR on Equity**

(RMB Million)						
	Conditions	Maximum Dividend (2006-2020)		Residual Value of Bus in 2020	Payables of Long-term Loan	Equity IRR (%)
		Total	To Private Investors			
Case 1 (Case of Joint Company)	No Protective Measures	80.0	48.0	499.6	447.4	-4.1%
	Five-years Tax Exemption and Subsidy to Separation Pay	237.0	142.2			5.0%
	Five-Years Subsidy to Bus Acquisition	533.0	319.8			16.5%

## (5) Conclusion

Based on the result of the above-stated financial analysis, the following are concluded.

- The three companies by themselves are very difficult to be privatized, even with a supportive measure such as 5-year tax exemption. If they are subsidized with more than RMB 25 million annually for the first five years, it can survive in the long run.
- If the New Bus Company is established as a public-private joint company by introducing a private capital over RMB 130 million, the company can be financially feasible. Without any supportive measures, however, the company is not so attractive to the private sector.
- New Bus Company will be viable if it joins with a private company, introducing private capital, and it is properly subsidized for a certain period.



## 11.5 Introducing the Route License System in Chengdu

The benefit of route-license system is that it helps every route as one unit to carry out the city-bus policies and business plans made by the bus administration authorities and introduces competitive principles into the selection of entrepreneurs and process of supervision. According to a World Bank<sup>1</sup> publication on the bus routes operating right, in order to introduce competitive principle, many nations and regions try to carry out all kinds of means even if there are some mistakes in the trial implementation. Taking into considerations these experiences, this section will recommend an adequate license system for Chengdu.

### 11.5.1 Methods to Incorporate a Competition Principle in Route Licensing

There are five (5) methods to introduce the competitive principles in route-permission system worldwide.

**Cost plus:** Municipal administration lays down operating plans for every route and distributes them among the public transportation enterprises. Enterprises turn over all the earnings coming from fare to municipal administration and get some necessary funds to cover operating expenses. This arrangement therefore does not entail profit or loss for the enterprises. Thus the only way to encourage enterprises to improve their income and expenses is the continuous renewal of their contracts. The municipal administration will then have more power under this arrangement, but it still fails to give its constituents a reasonable explanation on why they need such an amount of subsidy.

**Gross Cost:** Municipal administration lays down the operating plan for every route and the necessary funds are decided by bidding. The winning enterprise-bidder then turns over the fare income to the municipal administration and at the same time claims the amount stipulated in the contract. If the enterprise/route operator cannot abide by the agreements in the plan, it will have to receive administrative sanction. In this case then, the enterprise shares the risk with the municipal administration.

**Gross Cost with Incentives:** The structure of this method is almost the same as that of Gross Cost. In addition, anticipated passenger volume or fare income is stated clearly in the contract. If the actual income is beyond the forecast income, the enterprise can earn the extra incentives besides the agreed contract amount.

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<sup>1</sup> Bus Franchises: Should Gross or Net Cost Contracts Be Preferred, Nicola Shaw, the World Bank, 1996.

**Net Cost:** Municipal administration lays down operating plans by route. To select an operator, an excessive cost, which may not be covered by fare income, is subject to bidding. The excessive cost is compensated by either subsidy or tax reduction/exemption. In this method, entrepreneurs owe both the operation cost and fare income while contracted subsidy is considered the least income.

**“Commercial” Services:** If municipal government does not need to release subsidy on certain bus routes, adversely, some revenues are subject to bidding for bus route licensing. Possible revenues are loyalty to the bus route license, user charges at bus terminals and exclusive bus lanes which municipal government owns and maintains.

In the case of the JV bus company founded in 2000 in Chengdu, the contract is similar to “Net Cost” although there is no bidding and no route-wise license. Under the circumstances, the contract without bidding is not open to public, the city government’s instructions and their enforcement capability is not transparent.

### **11.5.2 Analysis of Method Characteristics**

Analysis for the methods implemented in all cases were made, such as 1) promoting competition and reducing cost, 2) motivating efficient operation and 3) contracting business and its management system. Their characteristics are summarized as follows:

**1) Promoting competition and reducing cost: how to create a competitive business environment and institutionalize a mechanism to control operating cost.**

The most efficient way of preparing a competitive business environment is to introduce bidding system into route-licensing. Generally speaking more enterprise players entering the bidding process will make higher bids.

American and British experiences show that bus enterprises prefer low-risk bidding. As compared with the “Net Cost” which shares risk of income and expense simultaneously, bus enterprises prefer “Gross Cost” which only entail the risk of expense on them. On the other hand, as compared with “Gross Cost”, they prefer more the “Cost Plus” method which basically expose them to no risk at all. (Refer to Table 11.5.1).

“Cost Plus” is preferred mostly by bus enterprises but it doesn’t include the motivation of reducing cost in the system. Cost-reduction structure has been mentioned in other methods, but the business risk of “Net Cost” is much higher thus many small and medium enterprises, as well as the newly established enterprises which are short of the local information, remain cautious to bidding. This demonstrates that “Gross Cost” has reduced cost more significantly (Refer to Table 11.5.2).

**Table 11.5.1 Average Number of Enterprises Entering the Bidding Process for Bus Route Licensing (British Cases)**

Local administration	Number of Contract Samples	Average of enterprises entering the bid under each contract	
		“Net Cost”	“Gross Cost”
Wiltshire	113	4.1	4.6
E. Sussex	212	3.3	3.8
Cheshire	53	3.8	4.2
Norfolk	31	1.0	3.2
Shropshire	37	4.4	4.6
Gloucestershire	37	3.1	4.4
Lancashire	300	3.1	3.7

Source: White and Tough (1995)

**Table 11.5.2 Relationship between Operation Cost of Bus Route Licensing and Quantity of Enterprises Entering the Bid (British Cases)**

Local administration	Contract Method	Average Number of Enterprises Entering the Bidding Process	Average Amount of Operation Cost (Pound/mill)
Oxfordshire	Net Cost	3	0.58
		over 3	1.25
Wiltshire	Net Cost/Gross Cost	3	0.62
		over 3	0.45
E. Sussex	Net Cost/Gross Cost	3	0.79
		over 3	0.58
Essex	Gross Cost	3	0.83
		4-6	0.54
		over 6	0.70

Source: White and Tough (1995)

**2) Motivating efficient operation: how to provide the incentives used to improve public transportation service as a system.**

It is difficult to motivate the enterprises to operate efficiently and to provide better service using the “Cost Plus” and “Gross Cost” methods. On the other hand, for enterprises to gain profitability using the “Net Cost” and “Commercial Services” methods, they need to provide better services in order to attract passengers and reduce their operating cost. However, if there will be no direct relationship between the improvement of service and the volume of passengers, the enterprises will only be concentrating themselves in reducing cost of operation.

When the route license is given to a single enterprise, it is more possible for “Net Cost” and “Commercial Services” to reach this goal. However, if the same route license is given to various enterprises, there will be more aggressive competition and operators may doubt whether the objective is really to improve service in the long run.

**3) Contracting business and its management system: how to prepare and supervise contracts in a simple and fair process**

As for the “Cost Plus” and “Gross Cost” methods, it is necessary for the bus administration to supervise the daily bus service according to the stipulations of route license contracts. In addition, it must also supervise the collection and turnover of fare so as to avoid any wrong behavior. As for the “Net Cost” and “Commercial Services” methods where bus enterprises share the risk of income, daily supervision of bus administration is easier. However, in order to guarantee passengers such as children, students, elders and disabled who are entitled to fare-discounts to avail of the same service as any regular-paying passengers, bus administration must subsidize the fare of these special passengers. It should therefore exert extra efforts and set up a new administration facility to achieve this purpose.

All the methods presented aim to reduce operating costs as a system except the “Cost Plus” method. In order therefore to avoid bus enterprises’ poor performance in the delivery of safe service resulting from excessive personnel strengthening and the operation of old vehicles, the bus administration has to supervise them.

**Table 11.5.3 Comparison on Estimation Effect by Different Methods of Bus Route License System**

	Cost-plus	Gross Cost	Gross Cost + Incentives	Net Cost	Commercial Services
Desire of enterprises to enter the bid	XXX	XX	XX	X	X
Reduction of operation cost	X	XXX	XXX	XX	XX
Increase of fare income	X	X	XX	XX	XXX
Improvement of service	X	X	XX	XX	XXX
Simplification of Subsidy Management Works	XXX	XXX	XX	X	XXX
Simplification of Operation Monitoring Works	X	X	X	XX	XXX

Marks are:      XXX: very effective    XX: fairly effective    X: no effect

### 11.5.3 A Route License System Suitable for Chengdu

According to a bus operation plan by route and the related income-cost forecast, the routes are first divided into two types: the first one needs bus administration’s financial support and the second one does not. Enterprises to take the routes which do not need financial support can be decided upon by using the “Commercial Services” method in inviting bids. Materials needed for bidding are as follows.

- A bus operating plan
- A bus facilities utilization plan (including terminal facilities, exclusive bus lanes, etc.)
- A business plan including the contribution amount (which is equivalent to route operating right and charges for use of facilities)

On the other hand, enterprises to take the routes of which needs financial support can be decided upon by using the “Net Cost” method in inviting bids. Materials needed for bidding are as follows.

- A bus operating plan
- A bus facilities utilization plan (including terminal facilities, exclusive bus lanes, etc.)
- A business plan including necessary subsidy and/or amount for tax reduction/exemption.

It is recommended that the government adopt the “Net Cost” method instead of the “Gross Cost” to invite bids for the following reasons:

- 1) The “Net Cost” method is easier to understand for all the relevant personnel in the bus business in Chengdu (administration, enterprises and users). Although the

contract of the recently founded JV bus company is using the corporation as a unit, it is closer to the “Net Cost” method.

- 2) Once the “Gross Cost” method is introduced, bus administration must burden much work on routes permitting and contracts managing. In addition, it will be quite difficult to work out systems that can supervise daily operation carefully and account the total amount of fare income efficiently in just a short time.

However, to develop institutionalize the “Net Cost” method in the bidding process to achieve the goal of the bus privatization project, the following points must be given special attention:

- 1) It is difficult for small and medium enterprises as well as the newly established enterprises to enter the bidding process if the “Net Cost” method is used to invite tenders. In order to avoid the regularization of the operating enterprises and the dissipation of the competitive environment, it is necessary to constantly disclose the bus administration’s decisions on bus enterprises’ policy and the different routes.
- 2) When a single route is assigned to many enterprises by using the “Net Cost” method, incentives of increasing the fare income are given. Undue competition may rise and may pose a risk to the competitiveness in the entire environment. It is therefore absolutely necessary for the bus administration to conduct supervision.
- 3) As for the use of the “Net Cost” method, subsidy is about the discrepancy between the fare income and the operating cost thus requiring more complicated computations. In addition, subsidy on the service for the discounted-fare passengers (e.g. students, disabled, etc.) must be taken into consideration.
- 4) Chengdu is paving the way to the city’s long-term public transportation system which is subway-based. At this point, buses will not compete for passengers with the subway, instead, it shall complement the inadequacy of the subway. However, this kind of function signifies a reduction in the fare and income of bus enterprises which makes the subway a not so welcome development for the bus enterprises. Basing on experiences of other cities, for the violent political bargain from the enterprise group, sometimes the share of bus and subway in the public mass transportation system is not clear (e.g. Hongkong, Bangkok, etc). Bus administration often states the clear function of city buses in the whole city’s transportation plan to refrain the bus enterprises from keeping the semi-permanent interest right factually.

## **11.6 Institutional Reform Program to Support Chengdu's Bus Privatization**

The institutional reform in association with urban bus privatization aims to improve the bus service, increase bus demand and foster competitiveness among the entrepreneurs. On the one hand, city bus' service is an indispensable part of the people's daily lives so it must be provided steadily. According to the following policies, we raise some proposals on the institutional reforms of the present urban bus on a per stage basis.

### **First stage: Current Situation**

- In Chengdu, the Public Utilities Bureau and the Transportation Bureau manage the intra-city and inter-city transport systems respectively. With the expansion of the urban area and the development of the neighboring satellite towns, the boundary between the intra-city and the inter-city transportation system becomes unclear. But with regards to administration, each bureau makes plans, supervises business and runs its state-owned enterprises.
- The subsidiary state-owned enterprises (SOEs) and one joint-venture company under the Chengdu Public Transport Company provide the urban bus services. The Chengdu Public Utilities Bureau and the Public Transport Company determine business permission by route. Thus, there's no competition among entrepreneurs and new entrepreneurs without capital relationship with the Chengdu Public Transport Company since they cannot enter into this market.
- Comparing with public, private and joint entrepreneurs, the service of mini buses is mainly provided on a commercial basis. However, the service of small buses is to be abolished, thus new entrepreneurs do not want to enter the market.
- With regard to premium services being offered, air-conditioned buses have different fare setting. No express service for long bus-stop intervals is available. There is also no operator providing exclusively premium services.

### **Second Stage: Preparation of Bus Privatization Plan and Transformation of Bus Operation Business to a Self-Financing Structure (2002-2004)**

The main task of the second stage is to work out a bus privatization plan to explain the plan to and enrich the understanding on these policies of bus entrepreneurs, relevant enterprises, bus-users and potential investors. As for bus enterprises and the relevant enterprises, they must strive for survival under the new policies. Additionally, the reform for state-owned public transportation enterprises will be accelerated.

- In accordance with the result of the study and the proposal, the city government will issue the policy on bus transport development and its promotion devices such as bus privatization, beneficiaries' pay principle, bus priority in some public transit corridors, and expansion and upgrade of bus services. In parallel with such policy statements, the city government will formulate a specific bus transport development plan that shall include demand forecast, institutional reform and related infrastructure/facility development.
- To integrate the administration of public transport, a reorganization of the structure of the Chengdu Public Utilities Bureau and the Transportation Bureau shall be done. Also, there will be an integration of similar tasks presently being undertaken by different bureaus (e.g. rules, the drawing up of rules and its supervision, preparation of plans, etc.).
- The future public transport administration will be a new system which shall clearly delineate every public transportation enterprise from each other observing a certain distance but still keeping their interest in mind. In addition, the new bus administration must improve its technical capabilities in drawing up transportation plans and developing financial analysis on bus lines.
- The subsidy to the public transportation enterprises must be reduced if not totally abolished. Through the assessment on the new JV company, it will be examined knowledge that the three rest branches are going to tap private capital including foreign capital into the rest of subsidiary companies.
- Regardless of ownership of these public enterprises, may it be state-owned or private, they must fully intensify the cost-recovery aspect of their operations. The new bus administration must give standardized financial statement formats and make their financial situation transparent. Through this, the Bureau will encourage these enterprises to build up their financial self-reliance. As for the monthly ticket for all urban and suburban lines, the work must be improved as to clarify every enterprises' monthly-ticket income. (e.g. general ticket book with discount).
- The urban bus priority project which has been prepared in the Study will be implemented, covering exclusive bus lanes, priority bus lanes and exclusive bus signals on heavy bus demand routes. The project will contribute to keeping bus travel speed at adequate level.
- Premium bus services will be expanded. More air-conditioned buses will be assigned in general and express buses and shuttle buses, i.e. between Tien Fu Square and suburban bus terminals, will be introduced on particular routes.



### **Third Stage: Restrictive Competition Environments under a Transitional Period (2005-2007)**

This stage is a transition period in the process of introducing route-licensing policy into bus operation business. On this stage, there will be a continuing implementation of the following reforms and policies, as follows:

- In order to convert smoothly the administration system to the citywide route-licensing policy, the management of daily business and the quality of service must be improved. At present, the Chengdu Public Transport Company is managing the details of operation. This function of management however will be transferred to the new administration thus their abilities should be improved to help them suit with the new policies. In addition, necessary qualification standards should be drawn up for bus enterprises entering their bids under the new policies.
- A thorough assessment on income and revenue statements shall be made for routes that will still need subsidy after the Second Stage. The minimum subsidy requirement in maintaining service will then be disbursed by route while the subsidy to a company will be abolished instead. At the same time, we may continue social bus services, i.e. for the aged, students and disabled. But the government will have to generate a separate financing source for such services so as not to put the pressure on the bus operators.
- During this stage, all state-owned enterprises are joint-stock companies which are formed by common shareholders. The standard financial statement sheets will be shared with them.
- The Headquarter of the Chengdu Public Transport Company will be reorganized as a public entity to manage national properties owned by the Company, by holding a stock share of bus operating companies as long as the properties exist. The Company's function of planning and monitoring bus service will be absorbed into the Chengdu Public Utility Bureau.
- The routes which will have successfully attracted bus passengers by the bus priority project during the Second Stage will be open to other bus operators, probably transferring from minibuses operation business, on the same road space. Flexible fare setting will be allowed for premium services on selective routes.

#### **Fourth Stage: Completion of Bus Privatization with Competitive Environments (2008-2010)**

The fourth stage is the final stage of the bus privatization project in Chengdu. This will take the form of a route license system under a competitive environment principle. This will provide reliable bus services and shall take advantage of benefits of privatization such as cost reduction and service improvement. Specific notes are made below:

- Regardless of whether there is subsidy or not, the right to operate on all the routes shall be decided by bidding. If the number of bus operators is small, competition may not work even under the new system. The appropriate number is deemed more or less ten operators. Competition with private transport will become more aggressive. Premium bus services will be expanded and their specialized operators will be fostered with a large degree of flexibility in the fare.
- The new bus administration should 1) prepare the plans for each route's bus service, 2) estimate the income and expense, 3) divide the routes which shall need subsidy from those that will not, and 4) invite tenders by from different modes every 3 years. After considering the transportation demand and service items, it can then be decided whether each route should be operated by a single or several entrepreneurs. The result of the bidding process, including the selected operator must be made public.
- As for Chengdu, it is necessary to prepare a detailed plan specifying tasks among subway, buses and taxis before the opening of the first subway line. At this stage, it's necessary to announce these plans to bus enterprises, as follows:
  - A bus route network plan which supplements subway routes
  - Subway stations related development plans, including bus facilities, land use and urban redevelopment around the stations.