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POLICY RESEARCH WORKING PAPER

1546

Concessions of Busways to the Private Sector

The São Paulo Metropolitan Region Experience

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A pioneer project in São Paulo, Brazil (and in the world) demonstrates that private companies are ready to go deeper into public transport than they have gone before. Private implementation and operation of "trunk-line bus corridors" in São Paulo illustrates a mechanism for financing capital investments in public transport that São Paulo's state and municipal governments would otherwise have been forced to postpone because of tight budgets.

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Summary findings

Roughly 16,000 buses serve the 16 million inhabitants of the São Paulo Metropolitan Region; 12,000 of them serve the São Paulo municipality itself, where 8.5 million people live. Congestion is heavy at peak travel times, and traffic signal timing logic favors the flow of automobiles. Bus operations are also hampered by obsolete ticket collection systems and by poor access for bus passengers, which lengthens boarding and alighting times. Average bus speed is about 13 kilometers per hour, headways vary greatly, and service is unreliable.

But conditions are expected to improve soon as the private sector becomes involved in "trunk-line bus corridors." Tender documents for ten bus corridors (one state and nine municipal) have recently been issued, defining rules for private concerns to bid for implementing and operating trunk-line services. All costs to implement each service, including improvements in street systems and facilities such as transfer terminals, are to be born by the winning firm. Ten bids have now been awarded and contracts signed.

This pioneer project demonstrates that private companies are ready to go deeper into public transport than they have gone before. Where the investment in busway infrastructure is to be repaid in installments to the private company which is awarded the concession, the use of multilateral agency guarantees (such as the recently approved World Bank guarantees) will probably entice private entrepreneurs.

Regulatory and controlling power remain in government hands. The government will control tariffs, preventing undue increases harmful to low-income users, and monitoring the level of service offered against the pre-agreed targets. Supervision must be very objective, however, and users must be actively involved to gauge the quality of service offered by concessionaires.

São Paulo municipal authorities were more successful in attracting the private sector than the State, because they devoted a considerable effort to the design of remuneration formulas for the concessions.

This paper — a product of the Environment and Urban Development Division, Country Department I, Latin America and the Caribbean — is part of a larger effort in the region to promote private sector participation in the investment and operation of transport facilities. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Allison Turner, room I7-127, telephone 202-473-0933, fax 202-676-0377, Internet address aturner@worldbank.org. November 1995. (14 pages)

Concessions of Busways to the Private Sector

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CONCESSIONS OF BUSWAYS TO THE PRIVATE SECTOR : THE SÃO PAULO METROPOLITAN REGION EXPERIENCE

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1. The São Paulo Metropolitan Region (SPMR), with 8000 sq. km, has 16 million inhabitants spread irregularly over 39 individual municipalities which are dominated by the São Paulo Municipality (SPM) with 8.5 million inhabitants. The SPMR generates roughly 20% of the GNP and is considered the most important economic region of the country. Each day, 30 million person trips take place in the SPMR of which 10 million are walking trips. Forty one percent of the motorized trips are by private automobile while the remaining are 39% by bus (mostly private operators), 14% by metro and 6% by train. Of the 12 million trips by public modes, about one third use more than one vehicle, requiring some sort of modal transfer: 78% of all metro trips, 61% of all train trips and 16% of all bus trips require one or more transfers to be completed. This level of urban transport activity, dominated by the road-based motorized modes has significant impacts on the SPMR's environment. Despite an existing 250 km rail network, the lack of integration between the metro and the suburban trains discourages more rail trips, in favor of buses and the automobile creating heavy congestion during peak hours thereby significantly increasing home-to-work trip time.

2. With approximately 16,000 buses in the SPMR (of which 12,000 in the SPM), competition for urban road space between buses and road traffic is a daily struggle in São Paulo. While public buses are theoretically given preference through measures such as parking restraints along bus routes, the reality is that traffic policies which enhance bus flows are rare. As a result, buses are subject to the general traffic conditions that prevail throughout the arterial network in the area, which keep them from providing fast and reliable transport services.

3. One key traffic control feature that significantly interferes with bus operations is the current traffic signal timing logic, which favor the flow of automobiles. Another interference to bus operations is the excessive time at stops, caused by the ticket collection system and poor accessibility for bus passengers which creates longer boarding and alighting times. The result of these interferences is that the average speed of buses is around 13 km per hour, headways vary greatly, and service reliability is poor.

Reserved Bus Lanes

4. In addition to the current traffic, safety and education procedures, São Paulo has adopted certain practices aimed specifically at improving bus operations. To this date, reserved or exclusive bus lanes[1] have been incorporated in about 100 km of arterial streets .

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[1] ***Reserved bus lanes*** are traffic lanes which are reserved for bus operations. These lanes are identified as such but are not physically separated from other lanes by medians or barriers. ***Exclusive or segregated bus lanes*** or busways

5. These bus lanes are roughly divided between right-side lanes (52 km) and central lanes (46 km), with buses following arterial medians. In most cases, bus lanes are separated from general traffic lanes by rubber stud dividers.

6. This type of bus lanes can be rapidly implemented at low cost and are easy to abolish if problems arise. They are, therefore, quite attractive to traffic authorities. Yet they also pose several problems, such as conflicts with turning vehicles and with freight loading/unloading operations. Furthermore, in the absence of constant enforcement, regular traffic will tend to invade the reserved lanes and mix with bus flows. They require, therefore, constant supervision and enforcement. That problem does not exist with physically segregated bus lanes.

Trunk-line Bus Corridors

7. The ***trunk-line bus corridor*** concept goes a step farther, for besides the provision of reserved bus lanes or segregated busways, it also includes the systematic control of bus operations.

8. The combination of street space management and bus scheduling leads to higher bus speeds and better quality of service (the bus fleet may even be reduced because of quicker turnaround times) resulting in improved transport supply and reduced operating costs.

9. The concentration of passenger trips with common end points along a corridor warrants high bus occupancy rates and trunk-line buses. The numerous origins and destinations beyond the corridor ends require that integration terminals be provided to concentrate and distribute those trips across the corridor's area of influence.

10. To this date, four trunk-line bus corridors have been implemented in the SPMR. Their total length is about 62 km, as shown in Table 1 below.

Table 1: Existing Corridors in the São Paulo Metropolitan Region

Corridors	Extension (km)	Integration Terminals	Bus Fleet (1)	Volume (2) Bus/Peak-hour	Volume Pass./Day ('000)
Municipal					
Paes de Barros	3.4	1	61	57	64
Nove de Julho	14.6	2	1.392	270	304
Vila Nova Cachoerinha	11.0	1	226	177	199
Metropolitan					
São Mateus-Jabaquara	32.6	9	367	265	192

(1) Gives the sum of trunk lines and remaining lines operating in the corridor.
(2) Gives bus volume at the peak hour in the heaviest section of the corridor.

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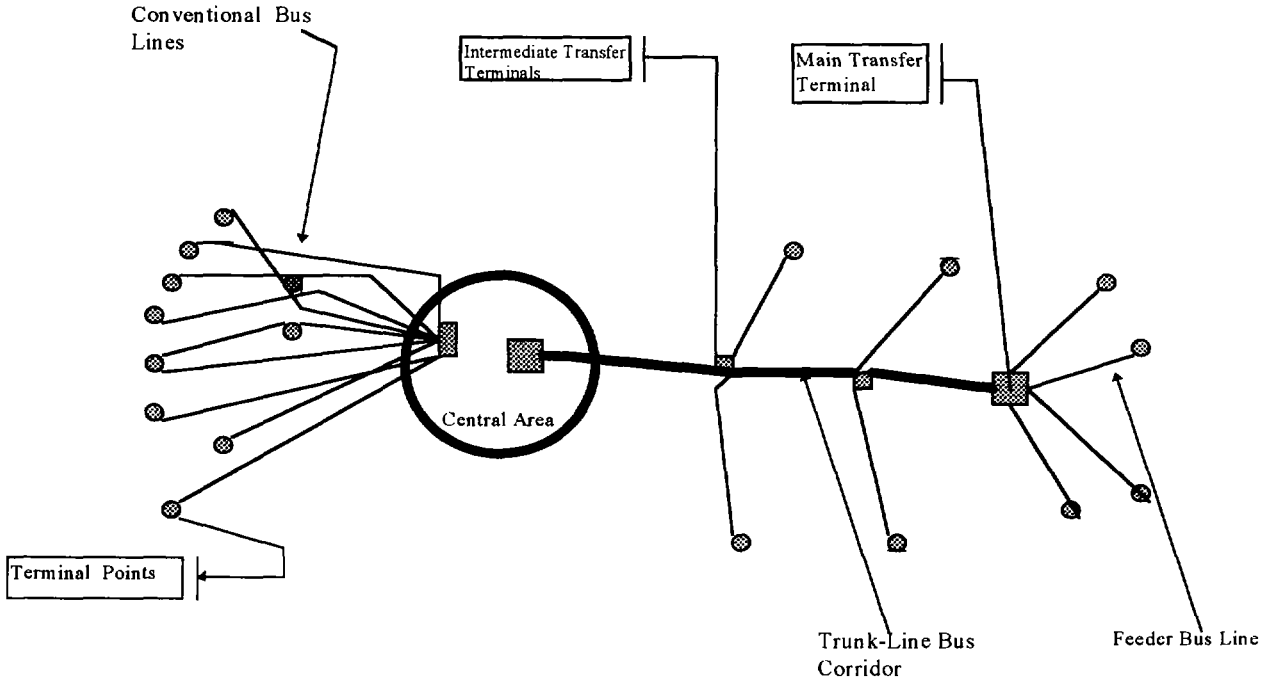
are lanes physically separated from other traffic by medians and barriers with grade separation or priority at intersections.

FIG. 1 - TRUNK LINE VERSUS CONVENTIONAL BUS CORRIDORS



Full replacement of former point-to-point lines by the combination of feeder and trunk-line services has so far been achieved only in the São Mateus-Jabaquara corridor. All other corridors maintain some of their original lines, which run parallel to trunk-line bus operations.

11. Trunk-line bus corridors should only be introduced along arterial streets with enough traffic capacity to accommodate both segregated bus flows and general traffic flows. Bus flow segregation and adoption of the trunk-line mode are aimed at improving transport quality and reducing transport costs. Also they are a significant improvement from established patterns of bus routing, which tacitly encourage sinuous paths that maximize passenger loadings along the whole route, while submitting passengers already on board to greatly increased travel times.

Private Sector Participation

12. The existing designated trunk-line bus corridors were designed and implemented either by the State or Municipal governments using public funds. In some cases, private companies have taken over corridor operations and the provision of an adequate vehicle fleet.

13. A novel concept which may result in a greatly reduced demand of public resources is now being implemented by both the São Paulo State transit authorities and the São Paulo Municipality. Tender documents for two bus corridors (one State and one Municipal) have recently been issued, defining rules for private concerns to bid for implementing and operating trunk-line services. Both establish that all expenditures necessary to implement each service, including those related to street system improvements and facilities (such as bus stop shelters), are to be borne by the

winning private concern. Exclusive operating rights would then be granted for a period not shorter than that deemed necessary to allow the winning bidder to recoup their investment in items which, upon being completed, become public property.

14. Both bus corridor designs acknowledge that advantages will result from segregation of bus flows and from establishing busways that connect bus transfer terminals. Both designs follow similar strategies. Routes which show potential for high passenger volumes would be equipped with reserved bus lanes or in some cases with completely segregated busways. Further, corridors would have their pavement strengthened to accommodate high bus volumes and would be equipped with sheltered bus stops.

15. Corridors would be essentially radial from the city center and at the outer end of each there would be a low-cost, standard transfer station, which would provide for the transfers between trunk-line buses and the feeder bus services.

16. Both vehicles and operating standards should be significantly better for trunk-line services, as compared to standard bus services. Fare system would include off-board payment and on-board automatic control.

17. Table 2 summarizes the basic specifications for trunk-line bus corridor design and operation.

The São Paulo Municipality Busway Privatization Program

18. In the next paragraphs we explain with some detail the São Paulo Municipality Busway Privatization Program which is underway .The "Corridor and Integration Terminals Program " of the São Paulo Municipality is an attempt to structure São Paulo's public transport network by optimizing the potential of the bus system , prioritizing its circulation through priority treatment and improvement of the existing road network.

19. The main objectives of the Municipality were:

- To reduce the level of subsidies paid by the existing public transport company (ex-CMTC, now Sao Paulo Transporte S.A.) due to inefficient operation , by transferring the operation to private companies;
- To improve the level of services provided by advancing the implementation of infrastructure investments postponed by the previous administrations.

20. The Program includes: a) the introduction of a trunk -line bus corridor system fed by other lower volume corridors; b) high capacity buses; c) greater intramodal (with other bus systems) and intermodal (with the subway and the suburban trains) integration ; and the assurance that user would pay a single tariff per trip without extra payments.

Table 2: Specifications for the Preparation of Bus Corridor Projects

Road Infrastructure System 1 - Insertion of reserved bus lanes ("canaleta") along the avenues and special lanes on intersections with traffic lights. 2 - Insertion of corridors preferable near the medians of boulevards. 3 - Rigid pavement with an adequate drainage system. 4 - Adjustment designs especially in the radius of curves. 5 - Average distance of 500 meters between bus stops, located in places of high demand for boarding and alighting, avoiding whenever possible a two way cross street, and staggered placement of bus stops. 6 - Choose a place for operational support in strategic points of the bus routes. 7 - Preserve and encourage attractive landscaping. 8 - Ensure installation of good road markings and sign posting to guarantee better traffic flow for the general traffic and set priority areas for bus circulation, identifying clearly where that priority starts and ends, the areas where parking is not allowed, and the regulations for boarding and alighting passengers and freight. 9 - Minimize the expropriations and interference with the utility network.
Bus Stops 1 - 36 meter modules with the possibility of expansion. 2 - Incorporate urban equipment whenever possible.
Transfer Terminal 1 - Must be enclosed, equipped with infrastructure for operating needs, and serve as a base for operational control. 2 - Have operational area close to the road infrastructure system. 3 - Have areas for administrative support and operational control with cafeteria, locker room, wash rooms, and other public equipment. 4 - Entry and exit areas for buses with independent lanes. 5 - Internal traffic lane allow for overtaking. 6 - Have storage areas and reserves areas for small vehicle repairs. 7 - Have covered areas for pedestrian circulation along with concentrated pedestrian crossings with clearly visible signals to avoid accidents. 8 - Have platforms sufficiently large (3 meters or more) to facilitate queuing and pedestrian circulation. 9 - Have places for selling tickets, passes, etc. 10 - Plan and stimulate the relocation of public equipment such as post offices, newspaper stands, and information kiosks.
Vehicles 1 - Articulated type with capacity for 170 passengers (70 seated) or Padron type with capacity for 105 passengers (40 seated). 2 - Satisfy the national standards of the country (in Brazil number 01/93 of 01/26/93 from CONMETRO). 3 - Have doors on both sides of the bus (S. Paulo Municipality corridors).
Operational System 1 - Establish adequate hourly scheduling in a way that matches supply and demand and maintains the quality of service at peak times of six passengers per sq. meter. 2 - Guarantee a vehicle operating speed of 25 km per hour. 3 - Hub and spoke operational type (feeder lines plus trunk lines) with one of the integration terminals preferably associated with the urban rail system (subway or metropolitan train). 4 - Vehicles access controlled by mechanical or electronic equipment. 5 - Support the operation of the corridor with light and heavy tow trucks.
Ticketing System 1 - Automatic ticketing system. 2 - Payment of a single tariff without extra payments for transfer.

21. In its institutional model, this program includes: a) the contracting of vehicle lots; b) the construction and maintenance of road infrastructure, incorporated to the public domain, by the private sector; c) the provision of services for a period of 8 (eight) years (Municipal Law) by the private sector concessionaire; and d) the remuneration of bus companies for the operation (based on a standard cost spreadsheet) and for the infrastructure they have built (in 8 years, from the start of operations).

22. The " Corridor and Integration Terminals Program" proposes :

- the implementation of 15 new trunk line bus corridors, with a total extension of 240.1km;
- the rehabilitation and modernization of an existing corridor (the famous Nove de Julho-Santo Amaro), with 17.6km;
- the construction of 22 integration terminals for intramodal and intermodal integration;
- the rehabilitation of 8 terminals;
- the construction of 26 transfer stations; and
- the contracting of 1353 articulated buses.

23. Among the benefits expected from this Program, are:

- the improvement in the level of service provided to 70.3 million passengers/month (46% of the total users of the bus system of the São Paulo Municipality;
- the guarantee of payment of a single tariff per trip without extra payments;
- greater intramodal and intermodal integration of the bus system;
- improvement of the level of comfort for the passengers (occupation of 7 passengers/sq.meter);
- the increase in average commercial speeds to 25km/h;
- the reduction of 400,000 bus km/day ;
- the reduction of 2300 buses;
- the reduction of operating costs with energy and fuels;
- the reduction of vehicle emissions;
- the generation of 27,000 new jobs/month , during the implementation of the works (20 months).

24. Among the projects which involve the development of new technologies for the Program it is worth mentioning the 'Electronic Monitoring" and the "Automatic Ticketing".

25. With the implementation of electronic monitoring, the objective is to monitor the circulation of the bus fleet through electronic control by radio waves. The automatic ticketing planned will be implemented through electronic turnstiles and the adoption of magnetic cards for the payment of fares, in all the buses in operation in the municipality (involving about 10,000 turnstiles and 80 million of tickets per month with a total of 180 million monthly trips).

26. With the objective of improving the level of bus services provided by the private companies, a "Transport Quality Program" is being developped since September of 1994. The idea is to promote a competitive environment between the bus companies contracted by the Municipality, aimed at obtaining a significant betterment in the pattern of services provided. With

quarterly prizes, this Program foresees the evaluation of bus services by the users; auditing of the operators; and monitoring of the performance through electronic monitoring.

27. This initiative uses the resources of the newly-established "Fund of Incentives for the Quality and Productivity of the São Paulo Bus Transport System", which gets 2% (about us$1.6 million/month) of the remuneration owed to the bus companies.

General Aspects of the Bidding Process

28. The São Paulo Municipality , through a competitive bidding process, invited individual companies or private consortia, to build and operate public transport bus services in 15 corridors, during a eight year period.

29. The investment plan for the modernization and improvement of services is proposed by the private sector bidders in their proposal for participation in accordance with basic pre-agreed standards for project design , defined by the Municipality in the bidding documents. These standards defined the level of service to be provided to the different levels of demand of the connection, the characteristics of the exclusive busways and the integration terminals, and the operational conditions.

30. The Municipality asked the proponents to prepare their projections of income and expenses in a way as to comply with pre-established operational requirements and yet be within a remuneration of cost per km which had been previously stipulated by the Municipality.

31. The remuneration of operational costs and management costs plus profit estimated by a formula which takes into account the kilometers logged and the number of passengers transported, is totally dissociated from the tariff. The latter is set and readjusted by the Municipality whenever it sees fit, to levels judged consonant with the buying power of the users.

32. All the revenue collection is done by the Municipality , which also controls and monitors the servicesto determine the final remuneration to the private sector.

33. In addition, the Municipality requested in its bidding documents an estimate of the investments and the schedule of reimbursements demanded by the bidders for the implementation of the corridors.

34. The contract is awarded to the company or consortia which submits the best technical proposal, with the lowest net present value of proposed investments.

35. This methodology implies that the private sector bidders must assume commitments which involve risks, because they may incur in loss of revenues or even new expenses if the proposed investments are underestimated. On the other hand, it may also generate profits higher than expected, if the operating results are better, or if the investments can be undertaken at prices lower than those estimated in the project.

36. Another aspect considered for the design of the investments was that the value of the fleet would be depreciated only 80% monthly (over the 8 years). Thus, after the contractual period the vehicles will remain in the hand of the companies.

Highlights of The Concession Contract

37. ***The Parts***: the contract is between the Municipality of Sao Paulo and the companies or private groups.

38. ***The Period of Concession***: the period of the concession contracts for each Corridor is 8 years. At the end of the contracts the Municipality must again invite bids for the provision of services in the corridor. The contract can be cancelled if the concessionaire did not fulfill its responsibilities or declares bankruptcy, or by decision of one of the parts, as long as the other part is adequately compensated for the termination of the service.

39. ***The Rights of the Concessionaire are***: to operate the system indicated in the contract and to receive a daily remuneration correspondent to the operating costs , administration costs and profit , estimated on the basis of the kilometers logged and the number of passengers transported. The depreciation of the investments (reimbursement to the concessionaires) will be done in 96 months (8 years) , the first installment being paid 30 days after the start of the commercial operation of the Corridor. In the infrastructure investments (topography, geology, project design, models and pre-operating costs) the depreciation will be by the staight line method during the contractual period. In the fleet investments, however, the depreciation will take place using the "sum-of-years -digits method" , also during a 96 month period.

40. ***The duties of the Concessionaire are*** : to meet the quantitative and qualitative targets and standards stipulated for the provision of services by the Municipality, never forgetting that this is a public service.

41. ***Corridor Operations***: Since the remuneration is dissociated from the tariff, there is no exclusive operation in the corridor. Thus, as long as the Municiality so decides, other operators in the region may use the Corridors , as long as the characteristics of the buses respect the pattern established, and as long as they have doors on both sides for boarding and alighting in central platforms. This characteristic facilitates the operational integration of the Municipality and State bus corridors.

42. ***Monitoring of Services***: this will be done using automatic systems with the objective of controlling the supply, through a production meter and to administer the quality of the services, providing data for eventual changes in the planning and possible. reprogramming . It is a computerized system, with vehicle on board equipment and sensors in the routes for transmission of data about the compliance with the hourly scheduling established for each line.

43. ***Contractual Penalties***: these are penalties for non compliance with the contract both during the construction and operational phases.
During Construction:

- works stoppage without just cause;
- non compliance , without proper justification, of the deadlines established in the activities schedules;
- utilization of inadequate materials which do not meet the demands and specifications defined in the contract;
- repeated non compliance with work safety and hygiene related norms.

44. During operation:
- reduction for a period of more than 48 hours of more than 20% of the scheduled buses to meet the services, except when this occurs for reasons beyond the control of the concessionnaire.
- non compliance with a request from the municipality to take out from operational service and replace a vehicle considered in inadequate conditions to provide services.
- non compliance with labor legislation in a way which may affect the provision of services;
- occurrence of accounting, fiscal and administrative irregularities, which were detected by the monitoring and supervision of the municipality or by an outside auditor.

45. Cases in which the contracts will be terminated, independently from judicial litigation:
- non compliance with contractual clauses which may endanger the execution of services;
- service interruption for a period over 24 hours due to exclusive responsibility of the concessionaire;
- judicial or extra-judicial liquidation , claims by creditors or bankruptcy;
- merger, cision or incorporation of the concessionaire , without previous and written agreement of the Municipality;
- seizure, arrest , search or apprehension or judicial deposit which impact over more than 20% of the vehicles which form the contracted lot;
- transfer of the contract to a third part, as a whole or in part;
- loss of the requirements of , financial capacity, technical and administrative duly certified
- retention of amounts collected without authorization from the Municipality;
- repeated non fulfillment of of the contract , endangering the execution of services
- high number of accidents or service failures due to lack of inneficiency of maintenance , as well as lack of prudence , lack of skill or negligence of its duties.

46. The rescission due to contractual infraction may lead to the exclusion of the concessionaire from future contracts with the Municipal Authority.

47. The concessionaire may call for the legal termination of the contract if the Municipality will not pay him the amounts due within 10 days of the date in which they are due.

Payment Guarantees

48. To guarantee the remuneration of investments made by the private sector, the Municipality established the FUNCOR- Municipal Fund for the System of Segregated Exclusive Corridors for

Bus Traffic. This Fund which will have a 8 year duration , which can be extended for 2 more years, from the start of operations of the first System Corridor.

49. The resources will be used for the payment of services and works in segregated corridors, integration and transfer terminals, boarding and alighting stops and other infrastructure investments. The sources for these resources are:

- budgetary resources and additional credits assigned to the corridor program
- income from financial application of resources
- surplus from tariff revenues
- integral value collected for fines levied on the private concessionnaires which operate the system , because of non compliance with the contractual regulations.

Financial Viability

50. Private sector involvement in corridor implementation and operation is only feasible when financial sustainability is a real possibility. In this respect, one basic assumption is that all infrastructure investments would be adequately refunded since these are, in essence, public investments. Another equally important assumption is that fare revenue would suffice, at least in the long run, to profitably cover direct operating costs.

51. Direct operating costs are the sum of fixed and variable costs. Fixed costs are proportional to fleet size, comprising items like vehicle depreciation, operating and maintenance, manpower costs, and capital recovery. Variable costs, on the other hand, refer basically to consumption items, such as fuel and tires.

52. The services rendered by each operating concern shall be paid in accordance to a specific formula, which includes an infrastructure cost refund portion and an operating cost payment portion. Contracts should be long enough to ensure that all infrastructure investments are adequately refunded, while fare revenue would be the sole source to cover operating costs.

53. Selection among candidates to implement and operate each corridor was made through public tenders. Joint ventures between civil works contractors and transit operators are acceptable as bidders and appear to be the most common type of consortium. Since corridor basic and detailed design (in accordance with the aforementioned guidelines) are also part of the contract package, credit is given to private sector resourcefulness and ingenuity in the development of innovative solutions for each proposed trunk-line system.

Tender Specifications

54. Bids were evaluated according to price and technical quality, based on a series of specific criteria.

55. On the technical side, each bid was judged for the ability of the proposed solution to adequately meet transport demand, for the soundness of the operating concept proposed, for the

level of improvement suggested to the surrounding street network, and for the feasibility of the implementation plan and schedule.

56. After this stage is concluded, price bids were opened and evaluated. Relevant factors in this evaluation are the present value of the total price quoted by each bidder and the respective payment conditions proposed.

57. The final grade to be attributed to each bidder is the weighted sum of the technical bid grade and the price bid grade, in such a way as to make sure that the winning bidder will provide the best solution at the lowest price.

State versus Municipal Bidding Procedures - a Comparison

58. In the case of the State, officials decided to restrict access to bids for metropolitan corridors, and only to accept bids from established urban bus transit operators. The winning bidder would retain exclusive operating rights on the corridor for a period of twenty years, and also retain the rights for the development of business ventures associated with the respective transfer station area(s). The latter are intended to compensate for infrastructure investments in the corridor, which the State would not refund.

59. Vehicles would remain in possession of the private operator, even after the concession period is over. Investment in vehicles would be entirely depreciated as part of the operating costs.

60. Private investors would assume all investment risks, in return for exclusive corridor operating rights and for the guarantee that operating costs plus profit shall always be covered by the fare revenue.

61. In the Municipal case, any company or consortium is allowed to present a bid. The winning bidder would have a eight- to ten-year contract and be paid an amount intended to cover both infrastructure investment and operating cost.

62. Only 20 percent of the total bus fleet would be included in the operating cost equation, for that is considered to be the average salvage value of the buses at the end of their operating life. The remaining 80 percent are considered to be part of the equipment and infrastructure investment.

Table 3: Type of Bidding

	Selection Process	Participants	Type	Term	Monthly Remuneration
State of São Paulo	Public Competitive Bidding	Transport Operators	Concession of Services	20 years	Tariff (1)
Municipality of São Paulo	Public Competitive Bidding	Any Contractor	Service Contract	8 years	Tariff + Amortization of Investment (2)

(1) implies that private contractors will have its operating and investment costs covered exclusively by the tariff set by the government.
(2) Implies that private contractors will have its operating costs covered by the tariff set by the government and its investment costs by a monthly amortization installment.

Results

63. Bids have already been requested for the first 6 Metropolitan (State) corridors, with a total length of approximately 127 km and at least 6 transfer terminals.

64. The first stage of this process includes discussions, now underway, to grant operation rights on the Guarulhos-Armênia corridor to a private concern. This corridor spans a length of about 17 km and links the downtown area of Guarulhos and the Armênia metro station in downtown São Paulo. With 3 transfer stations along its length, investments in this corridor total about US$68 million for infrastructure, plus about US$15 million to acquire a fleet of 60 articulated buses.

65. The next stage in the process will be requesting bids for 9 more trunk-line corridors, totaling around 136 km in length and requiring 21 additional transfer stations. It should be noted that at least one end of each metropolitan corridor is always to be linked to a metro or metropolitan railway station.

66. The São Paulo Municipality has already concluded the selection process and has identified operators for 9 municipal corridors. These corridors include 39 transfer stations and a total length of 226.2 km.

67. Tables 4 and 5 show the main features of: (a) the new 13 municipal corridors; and (b) the 9 metropolitan corridors to be implemented next.

Table 4: Municipal Corridor Bids

Corridor	Extension (km)	No. Terminals	Total Fleet (1)	Volume of Bus/Peak-hour	Volume of Pass/Day ('000)	Fleet Cost (US$ million)	Cost/km (US$ million)	Total Cost
Ibirapuera (3)	16.3	3	213	65	139	44.7	1.8	74.6
Sapop./A.Melo/D.Pedro (3)	36.6	6	180	184	392	37.8	1.2	81.6
Pirituba/S. João (4)	24.0	4	230	79	167	48.3	1.4	82.7
Francisco Morato (3)	16.2	3	90	88	188	18.9	1.9	50.1
Radial Leste (4)	18.2	3	50	127	270	10.5	2.9	62.8
Rio Bonito/Guarapiranga (3)	42.8	8	330	133	283	69.3	2.4	172.4
Guaianases (3)	24.9	5	30	29	62	6.3	1.8	51.4
N.Sra Sabará (4)	9.2	2	50	49	104	10.5	2.3	31.7
A.Ribeiro/Cav.Pinto (3)	38.0	5	150	99	211	31.5	1.6	92.7

Table 5: Metropolitan Corridors Proposed for the Second Phase

Corridor	Extension (km)	No. Terminals	Total Fleet (2)	Volume of Bus/Peak-hour	Volume of Pass/Day ('000)	Fleet Cost (US$ million)	Cost/km (US$ million)	Total Cost
Diadema/Brookin	13	2	19	19	25	2.3	2.0	28.3
Embu/Taboão/V.Sonia	13	3	58	58	76	7.0	2.0	33.0
Cotia/Pinheiros	17	2	17	14	18	2.0	2.0	36.0
S.Bernardo/V.Mariana	20	3	24	19	25	2.9	2.0	42.9
Guarulhos/São Mateus	37	2	33	19	25	4.0	2.0	78.0
S. Miguel/Itaquaquecetuba	9	2	16	21	28	1.9	2.0	19.9
Guarulhos/Penha	8	2	11	14	18	1.3	2.0	17.3
Taboão/Cotia/Osasco	11	3	7	7	9	0.8	2.0	22.8
Taboão/Campo Limpo	8	2	16	21	28	1.9	2.0	17.9

(1) Articulated vehicle fleet with maximum carrying capacity of 170 passengers.
(2)Vehicle fleet of the Padron type with maximum carrying capacity of 105 passengers.
(3)Contracts already signed.
(4)Proposals under evaluation.

Conclusions

68. Private sector involvement in the implementation and operation of trunk-line bus corridors in São Paulo is now a reality, and sets the trend for future busway implementation in the country and in the region. In the short term, private financing of trunk-line bus corridors appears to provide a financing mechanism for capital investments which governments would otherwise have been forced to postpone due to the chronic scarcity of budgetary resources. The users are therefore well served and , provided the level of service specified in the bid is respected, they should not have any complaints.

69. This is a pioneer project in Brazil (and in the world), demonstrating that private companies are ready to go deeper into public transport than they have gone before. In the case where the amortization of the investment is to be paid to the private company, the use of multilateral agency guarantees (such as the recently approved World Bank guarantees) will probably entice private entrepeneurs.

70. Private sector involvement in all phases of corridor implementation (planning, design, construction and operation) capitalizes on the companies' full managerial expertise and independence, which is a key asset for the successful conclusion of both programs.

71. Public sector regulatory and controlling power remains in the hands of government. Tariffs will still be controlled by government , preventing any undue increases which might have a negative social impact on low-income users. However, this will require very objective supervision. The active involvement of the users in the abovementioned "Transport Quality Program" is essential to gauge the overall level of service offered by the concessionaires.

72. Municipal authorities have achieved a more successful relationship with the private sector than has the State, thus far. Such success is reflected in higher quality projects and faster implementation procedures. Also, of the six State corridors initially identified, only one has achieved the stage of discussion for implementation, while all nine municipal corridors are being implemented. This shows that considerable effort should be dedicated to the design of remuneration formulas which are attractive to the private sector. Table 6 summarizes the advantages of private sector participation.

Table 6: Private Sector Participation in Busway Implementation

Aspects	Advantages
Planning and Design	Stimulates contractor creativity to reduce operating and investment costs Involvement of contractors in the final performance of the project.
Implementation	More rationality in the public transport system. Reduction of implementation schedules. Reduction of public sector participation in the investments. Scheduling of investments over time.
Operation	Working capital is a responsibility of the private operator. Better service quality in the short-term.
Supervision	Easier supervision of services.

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