
Swedish Competitive Tendering in Local and Regional Public Transport: Overview and Comparative Case Studies

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1. Introduction

From a fairly rigid system where licensed operators had an exclusive monopoly, public transport in Sweden has become a competitive tender system since July 1, 1989. The basic principle today is that the county transport authorities are in charge of planning, including design of the network, timetables and fares, but operation is put out for tender. The county transport authorities have responded to the new legislation in a variety of ways: from no change at all to a massive change of operators, from tenders for specific runs to tenders for large parts of the network, and so on. Cost savings on tendered services have been in the range of five to 45 percent.

This paper is basically descriptive, even though it includes some analysis. The next section provides a background, briefly tracing the changes in Swedish transport policy over the last decade. In the third section, I provide an overview of Swedish competitive tendering, especially policies and experiences. Section 4 includes comparative case studies for three Swedish cities plus Copenhagen and London. It points out some differences between cities and countries and discusses a few principal issues.

2. Background

In 1985, as a step towards deregulation of "commercial" transport services on local and regional level, the Government presented a Bill extending the right to operate scheduled services. The ensuing Act concerning the Right to Operate Certain Scheduled Services (Lag om rätt att driva viss linjetrafik; SFS 1985:449), which came into force on 1 July 1989, gave the transport authorities the right to operate scheduled road passenger services without a license or to enter into a contract with an independent operator holding the public transport license to operate services. Service licenses issued previously ceased to be valid at the vesting date, and holders of such licenses who did not wish to compete for operating rights were entitled to demand that the transport authority in their county buy their vehicles and other business assets. Once they have participated in tendering and lost, they can no longer claim redemption.

A Bill of 1988 (Trafikpolitiken inför 90-talet. Regeringens proposition 1987/88:50) proposed virtual freedom of establishment for bus companies by abolishing the examination of transport needs (carried out by a government body) as the basis on which operators' licenses were issued.

The rules concerning responsibility for local and regional public transport services may be summarized as follows. To facilitate adequate provision of public transport, a transport authority in each county is responsible for *all* local and regional scheduled public transport services, and the range of passenger services is to be specified in a transport provision plan adopted by each transport authority. The county council and the municipalities have joint responsibility for public transport in each county, but they can agree to let either the county council or the municipalities act as transport authority.

3. Overview of Swedish Competitive Tendering

3.1 Overview of policies and results

The 1988 Bill now provides scope for a variety of arrangements. Most transport authorities have used competitive tendering for at least part of the operation. Many authorities act step-wise by putting part of the operation out for tender each year. Some authorities have not yet exploited the new possibilities and will start tendering when current contracts run out; only a few say they have no intention of inviting tenders, claiming that they have already obtained the most cost-efficient production through negotiations with existing operators.

All authorities apply a "full cost method": the operator is paid for the full cost of operating, and the authority receives all revenue. In other respects, there is a wider variety of principles. Tenders typically cover transport services within a geographically defined area, though some operators tender for each round trip run and others for an arbitrary volume of operation. The tender documents normally include the current timetable and any proposed alterations as well as plans for preliminary operation and for turnaround of rolling stock. Some, but not all, authorities specify quality of buses in terms of maximum average age and maximum age of oldest bus used, in terms of user friendliness for disabled persons, and in terms of exhaust emissions.

The normal contract period is three to five years, tending to be longer the greater the range of transport services concerned. Contracts for shorter periods (one to three years) usually include a clause for automatic renewal unless notice of termination is given before a certain date. When variations in traffic volume during the contract period are small, increases/decreases in costs are calculated in direct proportion to the changes in volume. Prices are adjusted once a year in accordance with an index - usually the consumer price index - and, in some cases, multiplied with a specified reduction coefficient (for example, 90 per cent) to encourage operators to achieve further reductions in cost.

Local authorities are given great discretion in selecting contractors. In many cases the top priority is stability, which means that the incumbent operator may be retained even when lower bids are received from competitors; costs are compared with those of previous years.

In some counties where bids were required for a group of routes within an area, the authorities have negotiated with several potential operators, discussing with them both rerouting and timetables before coming to a decision. The idea was to enable the operator to contribute to the design of the network, especially if certain routings are more favorable than others from the viewpoint of efficient use of vehicles and drivers. Even where there are no such discussions with potential operators before the decision is made, the normal practice is that detailed plans are only adopted after consultation with the contractor selected.

Some authorities have experienced problems caused by "soft" specifications in the tender documents. In some cases, where price and quality specifications were presented as "guidelines", complex negotiating rounds with several operators have been necessary before a decision could be made. In other cases, the authorities believe they should have been less concerned with price, since the quality offered by the winning tender was lower than expected. As a result of these experiences, tender documents have successively moved towards stricter specifications, both quantitative and qualitative.

Most statistics in this overview refer to the situation in February 1990 — one-and-one-half years after tendering commenced — based on a survey in which 11 of 25 county authorities agreed to participate — in general, those who had applied tendering. The data for Stockholm and Göteborg (Gothenburg) refer to the situation in April 1993.

Table 1: Descriptive Statistics for Swedish County Transport Authorities

County	Employees Number	Production (millions of vehicle kms/year	Part of Operation Tendered		Operation by Type of Operator												Cost Saving on Tendered Service %
			Feb 1990 %	Future %	Before July 1989				In February 1990				P %				
					M #	S #	P #	%	M #	S #	P #	%					
Stockholm ¹	350	205	7	100	1	86	1	13	15	1	1	80	2	19	15	1	19
Uppsala	11	24	0	?	2	22	1	47	40	31	2	22	1	47	40	31	-
Södermanland	32	17	0	0	1	98	2	2	0	0	1	98	2	2	0	0	-
Östergötland	11	26	100	100	3	56	1	33	83	11	3	67	1	4	80	29	5
Jönköping	11	15	100	100	1	28	1	40	30	32	1	30	1	37	25	35	8
Kronoberg	10	8	100	100	0	0	1	50	28	50	0	1	50	25	50	5	5
Kalmar	9	16	100	100	1	31	1	38	35	31	1	19	1	38	27	43	8
Gotland	2	2	0	100	0	0	1	65	10	35	0	0	1	65	10	35	-
Blekinge	8	6	100	100	1	20	1	60	4	20	0	0	1	30	4	70	9
Kristianstad	8	11	20	100	0	0	1	47	20	53	0	0	1	44	15	56	10
Malmö	30	37	1	?	2	43	1	42	12	15	2	43	1	42	12	15	-
Halland	8	7	60	100	1	40	1	40	14	20	1	40	1	40	13	20	11
Göteborg & Bohus	47	64	4	?	3	55	1	35	15	10	3	55	1	35	15	10	8
Göteborg City ¹	14	28	17	?	1	100	0	0	0	0	1	75	0	0	1	25	45
Älvsborg	18	18	10	100	2	24	2	49	20	27	2	21	1	46	20	33	5
Skaraborg	15	12	28	100	3	11	2	66	15	23	2	10	1	64	14	26	6
Värmland	8	10	0	0	0	0	1	65	39	35	0	0	1	65	39	35	-
Örebro	14	12	0	?	1	75	1	5	17	20	1	75	1	5	17	20	-
Västmanland	49	10	0	0	4	100	0	0	0	0	4	100	0	0	0	0	-
Kopparborg	9	15	100	100	2	8	1	64	13	28	2	33	0	0	13	67	10
Gävleborg	15	16	30	100	1	17	2	48	6	35	1	17	1	53	5	30	12
Västernorrland	9	13	1	100	3	40	2	18	19	42	3	40	2	18	19	42	0
Jämtland	8	13	5	100	1	43	2	30	31	27	1	40	2	28	31	32	20
Västerbotten	9	19	5	100	2	22	1	31	127	47	2	22	1	31	127	47	13
Norrbottnen	9	12	4	100	0	0	1	18	60	82	0	0	1	18	60	82	20

Types of Operators: M=municipal; S=state-owned, i.e., the State Railways, Svebus (owned by State Railways) and Post buses (in rural areas) P=private. ?=not decided. -= not calculated or not available. ¹ Statistics for Stockholm and Göteborg City refers to April 1993.

Table 1 provides a few statistics for each county. It should be noted that the same operator or type of operator often have lost some services but instead won other services, so changes have often been more comprehensive than the figures under "type of operator" seem to indicate. The degree of concentration, measured as the market shares for "big" firms (owning more than 50 vehicles) was in 1988 between 28 and 97 percent. These degrees have changed only slightly. The main change in this respect is that a big private firm (Linjebuss) has taken over operation from the big state operator (Swebus). The small operators seem to have managed quite well. The reasons seem to be partly that their depots had good locations, partly that small firms have small administrations, partly that some authorities have decided to keep a number of operators to maintain future competitiveness.

3.2 Requirements for tenders

Table 2 shows the requirements of the eleven authorities that answered the survey. Stockholm, Göteborg, and Malmö are discussed in the case studies. Existence of a requirement is marked by x. In most cases, the authorities claim requirements have been fulfilled. Cases where fulfillment is not known is marked with ? Table 2 shows:

- Bidding and bidding plus negotiations are equally common, while negotiation only appears in one case. Negotiations normally do not include price negotiations but discussions on the requirements and minor modifications of the services.
- Ten out of eleven have tried to find new operators.
- Most commonly, the operator takes care of supervision of operation, vehicles, and depots.
- Ten require maximum age of vehicles and seven require maximum average age. All require a certain frequency of service and vehicle size. Eight require regularity (adherence to timetable). Only six require maximum exhaust gas levels and adaptation of vehicles to disabled persons.
- Eight require price and six use perceptions of confidence as criteria for choice. The size of the operator plays a role for three authorities.
- Monitoring is mostly done through random checks. Only five demand that the operator report any shortcomings in operation.
- Sanctions are applied by eight for delayed departures but only by six for canceled departures.

3.3 Scope of tenders and price levels

Table 3 includes prices for winning and losing bids and previous cost level where this has been provided. Stockholm, Göteborg, and Malmö are not included. Costs are expressed in index, where the lowest bid is given the index 100. The index for winning bid is underlined. Comments:

- The number of bidders has been between three and five. The range between the highest and the lowest not winning bid has been between two percent and 69 percent. Where the lowest bid has been chosen, the next lowest bid has been between two percent and 12 percent higher. These figures seem to indicate that there has been real competition.
- In seven of 10 tenders, the lowest bid has been chosen. In three cases, the authority expressed that confidence in the state owned operator (Swebus) was considered more important than the bid price.

Table 2: Requirements for Tendering in Eleven Counties

County	1	2	3	4	5	6	7	8	9	10	11	Sum
<u>Payment</u>												
per vehicle km	x	x				x	x	x		x	x	7
other method			x	x	x				x			4
<u>Tendering through</u>												
negotiation					x							1
bidding	x	x		x		x				x		5
bidding + negotiation			x				x	x	x		x	5
ask previous operat.	x		x	x	x	x		x	x	x		8
ask new operators				x		x			x	x		4
announcing	x	x	x	x		x	x	x	x		x	9
<u>Authority cares for</u>												
supervision of op. vehicles					x		x			x	x	3
depots	x				x							2
<u>Operator cares for</u>												
supervision of op. vehicles	x	x	x	x	x	x		x	x			8
depots	x	x	x	x	x	x	x	x	x	x	x	11
depots		x	x	x	x	x	x	x		x	x	9
<u>Quality requirements</u>												
max. age vehicles	12,5	14	12?	5	14	12	10?		12,5	14	10	10
average age vehicles		7	7,5?			6	5?		6,5	8	5	7
cleaning	x	x				x	x?		x		x?	6
adjusted for disabled		x			x		x?		x?	x	x?	6
exhaust gases		x		x	x		x?		x		x?	6
frequency of service	x	x	x?	x	x?	x	x?	x	x?		x?	10
vehicle size	x	x	x?	x	x?	x	x?	x	x?	x	x	11
regularity	x			x		x	x?	x	x?	x	x?	8
matched transfers	x	x		x	x?	x	x?			x	x?	8
personnel	x	x	x?	x		x	x?		x	x?	x?	9
radio	x			x	x?	x+	x?			x?	x	7
information	x	x	x	x		x	x?	x	x?		x?	9
passenger counts	x	x	x?	x	x?	x	x?	x	x?			9
accident liability	x			x	x	x	x?	x	x	x?	x	9
<u>Criteria for choice</u>												
price	x	x	x	x		x			x	x	x	8
size of firm	x			x						x		3
confidence		x	x	x	x	x		x		x	x	8
quality	x	x		x		x		x	x			6
<u>Monitoring through</u>												
operator	x			x		x		x			x	5
passengers	x	x	x	x	x						x	6
random checks	x	x	x	x	x			x		x		7
<u>Sanctions for</u>												
cancellations	x	x		x		x				x	x	6
delays	x	x	x		x	x		x	x	x		8

Table 3: Previous Costs, Winning and Losing Bidders in Ten Tenders in Sweden

Object	Scope 1000 vkms	Previous Cost	Private Operators				State 1	Municipal 1
			1	2	3	4		
1	656	-	<u>100</u>	121	111		110	
2	290	-	<u>100</u>	122	112		112	
3	92	-	111	156			<u>100</u>	
4	105	-	<u>100</u>	120	169		155	
5	246	-	100	102	120		<u>108</u>	
6	758	-	100	123			<u>103</u>	
7	579	-	100	114	127		<u>106</u>	
8	4131	106	<u>100</u>	102	105		100	
9	1333	108	113	121			<u>100</u>	
10	122	120	106	114	116	117	<u>100</u>	

4. Comparative Case Studies

4.1 Principles behind the case studies

This section describes (in more detail) the policies, the considerations, and the results with regard to tendering, but it is limited to the three biggest cities in Sweden, Stockholm, Göteborg, and Malmö. Possible differences between tendering in Sweden and other places where tendering has been used comprehensively, Copenhagen (Denmark) and London (England), are also included.

The case studies are primarily based on discussions with representatives of the authority and the operating parties in each city. Note that in some cities either a municipal or a private operator is represented in the study, while in London both types are represented. Note also that the detail of information is not the same for every representative and every city. Malmö has so far submitted the specifications for tender, but has not yet made any decision. In Göteborg, so far only the authority has been included in the study.

For each city the following critical issues are described, and some of them discussed:

- A. Cost reductions - how much and why
- B. The scope of tenders
- C. The market
- D. Ownership of assets and vehicles
- E. Specification of requirements, sanctions and incentives
- F. Principles for tendering and contract periods

A. Cost reductions - how much and why

Stockholm Authority: *Storstockholms lokaltrafik AB (SL)*

When the Stockholm County Public Company was split into a planning and purchasing unit (SL) on the one hand and operating and supplying units (SL Buss and SL Bansystem (train)) on the other, the

operating units were given a couple years for rationalization before the tendering process was to begin. The costs of bus operation were cut by about 15 percent during this period. This reduction came about partly through the willingness of the personnel to be competitive, partly through the threat of competition and the risk of losing the job. The first tender comprised 20 percent of the bus services and three rail lines. The tendering itself reduced the cost of the tendered services by a further four percent.

Municipal operator: SL Buss

SL Buss uses the drivers more efficiently. Working hours in operation has increased from 30 to 35 hours per week. Layover time at terminals has been reduced. Spare vehicles have been reduced from 20 percent to eight percent. Various cost objects have been reduced as follows:

- 8 percent drivers
- 16 percent buses
- 50 percent workshop staff
- 40 percent local administration
- 60 percent central administration

In Stockholm, SL Buss is paying its staff around 16 percent more than competing operators and offers longer holidays, 27-34 days per year compared to 25 days. All in all, the personnel cost is around 15 percent higher for SL Buss than for competing operators.

Göteborg *Authority: Trafikkontoret*

Also in Göteborg, the municipal operator was given a couple of years for rationalization. This process cut costs 20 percent. Examples of reasons for cost reductions are less administration, fewer buses in the garages, and some staff are employed on an hourly instead of a monthly basis. Tendering reduced costs by a further 25 percent. The total cost reduction of tendered services was thus 45 percent.

Malmö *Authority: Länstrafiken Malmöhus*

The municipal operating firm was given two years for rationalization, which reduced costs around 15 percent.

Municipal operator: ML Malmö Trafik AB

The rationalization has reduced costs by around 20 percent.

London *Authority: London Buses Tendered Bus Division (TBD)*

London Buses was given no time for rationalization. It came as a shock for them. In tendered operations, cost reduction have been around 20 percent. The half of the operation that is not yet put out for tender has also cut its cost by around 20 percent. The reasons for cost reductions have been less administration, more educated workshop staff, more efficient use of drivers, and lower wages.

Municipal operator: London Buses: East London Bus and Coach Company

London Buses has reduced wages, even in nominal terms.

Private operator: Grey-Green Coaches

Some reduction of wages. Less administration.

Copenhagen *Authority: Hovedstadsområdets Trafikselskab (HT)*

During the tendering process, costs have been reduced by around 10 percent between 1989 and 1992. Some further reductions are expected for tenders in 1993.

The municipal operator (HTs Bussdivision (HTB)) make use of depots in a more efficient way. The central administration and workshop personnel have been reduced with 50 percent. The drivers time is used more efficiently.

Private operator: Birkerød Buscompagni A/S

Cost consciousness has been growing. The profit margin in 1992 was 15 percent but will go down to somewhere between 5 and 10 percent in 1993, due to low winning bids in the 1993 tenders.

B. The scope of tenders

Stockholm *Authority: Storstockholms lokaltrafik AB (SL)*

A smaller-than-depot size would cause loss of operational coordination and therefore higher costs.

Bid prices per kilometer were lower for combinations of two areas than for each single area in two cases of the eight original packages (areas). Table 4 shows the bid prices for the winner and the runner up. Prices for other bidders and previous costs are not revealed by SL.

It is noted that state owned Swebus won 79 percent of the operation in terms of vehicle kilometers. SL Buss won the remaining 21 percent, while the private bidders lost in all cases. The private operators were the most expensive for 90 percent of the operation.

Municipal operator: SL Buss

A scope comprising around 10 routes and around 50 vehicles seems reasonable from an economics of scope point of view. Larger packages would not be more economizing, partly due to less "teamfeeling" and therefore lower productivity.

Göteborg *Authority: Trafikkontoret*

Göteborg put a third of their bus services for tender in spring 1992. Operators could bid for each of five packages and for all of them. The most interesting bidders were then invited to bid for combinations.

Table 5 shows the relative cost levels before rationalization and tendering, the relative bid prices for each package, and the price levels for the winning combinations.

The private operator Linjebuss had the lowest bid price in four out of five packages, while the municipal owned Spårvägen (GS) had the lowest price for one. The state owned Swebuss had the highest prices. For the combination package 1+5 however, GS was three percent cheaper than Linjebuss. This was due to "economics of scope" and good locations of depots. Linjebuss won package 2+3+4. Linjebuss was in fact

Table 4: Bid prices in Stockholm

Object	Scope 1000 vkms	Previous Cost	Private Operators (several)	State 1	Municipal 1
1+2	2500	-	>104	104	<u>100</u>
3	1760	-	102	<u>100</u>	>102
4+5	6280	-	>105	<u>100</u>	105
6	1130	-	>102	102	<u>100</u>
7	1920	-	>115	<u>100</u>	115
8	3950	-	>106	<u>100</u>	106

Table 5: Previous prices and bid prices in Göteborg

Object	Scope 1000 vkms	Previous Cost	Private Operators				State 1	Municipal 1
			1	2	3	4		
1	1300	143	100				107	109
2	900	171	100	118			118	121
3	500	155	100	112			122	117
4	700	148	100	116			122	121
5	900	109	102				105	100
1+5	2200	182	103				106	<u>100</u>
2+3+4	2100	182	<u>100</u>	115			121	118

0.1 percent cheaper had they been given all the packages, but since the price difference was that small, GS was chosen for part of the operation to maintain competition for future tenders.

Combinations thus gave rise to a lower price than single packages. Optimal scope in Göteborg, therefore, seems to be around eight services and 25 buses.

Copenhagen Authority: *Hovedstadsområdets Trafikselskab (HT)*

Tender packages used to comprise three to six services. The operators are invited to bid for each single service and all combination of services. The reason for small packages and flexibility is to encourage many bidders. There is no notion of optimal size of tender packages.

Private operator: Birkerød Buscompagni A/S

Small packages are good to encourage many bidders. Optimal size is around 50 buses on 5-10 routes.

London *Authority: London Buses Tendered Bus Division (TBD)*

Tenders typically comprise only a few services. Bidding on each single route is compulsory. In addition, the operators may bid on any combination.

Optimal size is around two to three services.

Municipal operator: London Buses: East London Bus and Coach Company

Optimal size is around 25-30 buses, operating on two to three services.

Private operator: Grey-Green Coaches

Optimal size for the operator is a full depot comprising 100 buses, operating on 10-15 services.

C. The market

Stockholm *Authority: Storstockholms lokaltrafik AB (SL)*

In the first tender, four to six operators bid on each package. Four operators bid on all packages. Two bidders, SL Bansystem and a private operator, were interested in rail operation.

Municipal operator: SL Buss

Some critics have claimed that public firms should not be allowed to compete, because they may acquire lower interest rates than private operators. If so, says SL Buss, this is due to market evaluation by lenders and should be appreciated by the tax payers.

Other critics have claimed that public firms should require the same level of profit as private firms. This, says SL Buss, would only disbenefit the tax payers who would have to pay more if operation is lost to private operators.

Other critics claim that public bus operators may cross-subsidize between services. SL Buss answers that, firstly, such behavior would not be accepted by the auditor, secondly, that one cannot afford to take away money from other parts of operation since that would reduce the chances of winning that operation when put out for tender.

It is important that there are publicly owned operators in the market to maintain a competitive market. Therefore, one wishes the right to compete in other areas than within the Stockholm county. Operation outside own county is currently not allowed in Sweden.

Göteborg *Authority: Trafikkontoret*

In the first tender, there were four bidders: one municipal, one state owned, and two private.

There is an advantage to keep the municipal operator for the sake of future competition.

Further tendering has (at least temporarily) been stopped. The municipal operator Spårvägen (GS) has been given the right to operate the remaining two-third's of bus services plus all tram lines on a year-to-year basis at the same price per kilometer as for the tendered services. The reasons are twofold: Firstly, GS

has redundancy agreements with their personnel, which makes it costly to fire them. Secondly, GS is not allowed to compete outside the city; it cannot win any outside city operation, but it can lose operations inside the city, something which has been considered unfair.

Malmö *Authority: Länstrafiken Malmö*

It does not matter whether the operator is owned by the municipality or a private firm. What matters is existence of competition. Since there has been a political decision to sell out the municipal ML, there is some worry that competition will diminish.

Municipal operator: ML Malmö Trafik AB

It is a pity that ML was never given the opportunity to compete after the rationalization efforts. There is some worry that either Swebus or Linjebuss will buy ML, something which would in practice reduce the number of competitors from three to two.

Copenhagen *Authority: Hovedstadsområdets Trafikselskab (HT)*

There are about 20 bidders for each package, although none from the municipal operator, HT Busdivision (HTB). According to a law signed by the conservative government, 45 percent of the operation should have been transferred from HTB to other operators between 1989 and 1993. A peculiar consequence is that the Swedish state owned Swebus may win operation, while the municipally owned HTB may not. The present social democrat led government wants to change this law to allow HTB to compete.

There are around 20 bidders per tender, some of which are from abroad. Among the latter, so far, only Swedish bidders have been successful.

Private operator: Birkerød Buscompagni A/S

There is a risk for growing ownership concentration. HTB should be allowed to compete. A strict condition is, however, that HT and HTB must have separate boards to avoid biased evaluations of bids.

London *Authority: London Buses Tendered Bus Division (TBD)*

So far half of the operation has been put out for tender. Each package attracts 20-30 bidders. London Buses has won about half of that operation and private operators the other half. There is an advantage that London Buses is allowed to compete. London Buses has no advantage over private competitors.

Municipal operator: London Buses: East London Bus and Coach Company

There is an advantage that London Buses is allowed to compete. London Buses has no advantage over private competitors.

Private operator: Grey-Green Coaches

Is not opposed to competition from London Buses. But that firm might have an advantage in being big, thereby being able to negotiate favorable prices for vehicles, etc. Depots might also be subsidized by London Transport.

Discussion

The number of bidders in Sweden is around three to five, in Copenhagen and London around 20-30. There are at least two possible reasons. One is the ongoing concentration of operators in Sweden. The other is that at least the bigger cities in Sweden do not allow bids on very small packages or single routes. What to say about small versus big packages? Big packages may be good from an "economics of scope" point of view. Small packages would attract more bidders. The best answer is not obvious. But as long as large packages are considered with small ones, it seems there is no risk of losing economics of scope. Then, only the cost for the tendering process might rule out small packages. This is, however, an empirical question that has not been tested by big cities in Sweden.

Should municipal operators be allowed to compete with private ones? I can see the following advantages:

- a) More competitors.
- b) Low profit requirements, only cost minimizing objectives.
- c) The authority may easily acquire information which is vital for planning.

The disadvantage with municipal operators may occur if there are possibilities to cross-subsidize. If, however, auditing is strict, and if all operators have the same legal and economical responsibilities, it seems important to allow municipal operators. Pyddoke (1991) and Fölster (1993) provide examples from various areas in Sweden where the existence of competing public firms have kept price levels down. The case study of Stockholm demonstrates that SL Buss won two of six packages even though their personnel costs currently are 15 percent higher than the competitors' costs, indicating that SL Buss is more productive.

D. Ownership of assets and vehicles

Stockholm *Authority: Storstockholms lokaltrafik AB (SL)*

SL owns the depots including heavy installed equipment. They are leased to the winner at a fixed price, given in the tender specifications. The reason is that the depots are strategically located, meaning that the own operator would get a biased advantage over competitors if they would have to acquire their own depots. Also, if SL Buss would lose, the market value of the depots would be low.

The winners are offered to buy the buses presently owned by SL Buss at fixed prices and are offered to resell the buses at fixed prices if they lose in future tenders.

Municipal operator: SL Buss

It is a good idea that depots are owned and leased out by SL.

It is good from incentive point of view that the operator owns all equipment except heavy installations in the depots, as well as vehicles.

Malmö *Authority: Länstrafiken Malmöhus*

The operator should own both vehicles and depots for incentive reasons.

Municipal operator: ML Malmö Trafik AB

The operator should own both vehicles and depots for incentive reasons. The advantage of depot location is relatively small.

Copenhagen *Authority: Hovedstadsområdets Trafikselskab (HT)*

The operator should own both vehicles and depots for incentive reasons. The advantage of depot location is relatively small.

Private operator: Birkerød Buscompagni A/S

It is good that the authority owns the depots to avoid bias due to location of depots.

London *Authority: London Buses Tendered Bus Division (TBD)*

There is no reason for the authority to own depots, which are easy to acquire. Depots no longer have to be under roof, and even parking places can be used at night time.

Municipal operator: London Buses: East London Bus and Coach Company

Depots and vehicles ought to be owned by the operator. They can easily be sold on the market.

Private operator: Grey-Green Coaches

Location of depots plays a great roll. The firm has lost one tender package due to the bad location of its depot.

In central London, it is important that depots are protected so that they cannot be sold out to other activities like supermarkets, something which would be deteriorating for public transport.

E. Specification of requirements, sanctions and incentives

Stockholm *Authority: Storstockholms lokaltrafik AB (SL)*

Operation

SL specifies route alignment and service frequency. Scheduling and rostering is left to the operator, thereby making use of the operator's innovative capability.

If actual operation is at least 99.8 percent of contracted operation, no sanctions are applied. If operation is less, the operator has to pay three times the contracted bid price per kilometer if the operator has reported about the lost kilometrage. If not reported, the payment is 10-15 times the contracted price.

Quality

SL does not specify age of vehicles, but age may be discussed in negotiations if buses other than those owned by SL Buss will be used.

There are no specific requirements for exhaust gases below the level that the existing buses owned by SL

have. However, certain levels have to be fulfilled in the year 2000, which implies an incentive to invest in new buses if one wants to be competitive in a few years.

Requirement for regularity will be linked to percentage of deviations from timetable, where fulfillment will lead to bonus and otherwise to a penalty.

For other quality parameters, surveys will be used to find out the passengers' points of view. Whether these views will give rise to bonus or penalties is under discussion.

Municipal operator: SL Buss

Operation

Scheduling and rostering should be left to the operator to make use of the operator's innovative capability.

Quality

Strict quality specifications are advantageous to avoid costly discussions later on.

Incentive contracts should be good, if the incentive is linked to change of revenues in the area one is responsible for, related to change of revenues in other areas.

Malmö *Authority: Länstrafiken Malmöhus*

Operation

Not only route alignment and frequency are specified, but also the exact timetable. The reason is that this is believed to make sure that transfers between routes are comfortable.

Quality

Regularity is linked to percentages of late or early arrivals, where fulfillment gives rise to bonuses. For behavior of staff, information, cleaning, etc., surveys show the opinions of the passengers in a ten grade scale. The more points an operator gets, the more bonuses the operator will get.

Municipal operator: ML Malmö Trafik AB

The requirements are reasonable.

Göteborg *Authority: Trafikkontoret*

Operation

Route alignment and service frequency are specified. Scheduling and rostering are left to the operator.

Quality

Very strict requirements are used for age of bus fleet and exhaust gases. The average age of buses must not be over five years.

Copenhagen Authority: *Hovedstadsområdets Trafikselskab (HT)*

Operation

Not only route alignment and frequency are specified, but also the exact timetable. The reason is that this is believed to make sure that transfers between routes are comfortable.

Not produced kilometrage is penalized at 1.5 times the contracted price per kilometer. For each canceled operation which is not reported, a fixed penalty has to be paid.

Quality

HT will use the criteria regularity, service, comfort, information, and security, where the passengers' points of view will rank the operators into three groups. The best two groups of operators will get some bonus.

Private operator: Birkerød Buscompagni A/S

Operation

One would prefer that scheduling and rostering is left to the operator, thereby making use of the operator's innovative capability. The assumed problem concerning transfers can be solved by specification of transfer times.

The sanctions are reasonable. Further sanctions would be useless. The most important thing for the operator is anyway to renew the contract, which cannot be done if operation is poorly performed.

Quality

Quality incentives are interesting, but there are huge measurement problems. It is difficult to compare areas, surveys are made at different points of time, etc.

One would rather see either a) net contracts where the operator pays for the right to operate and keeps the revenues, b) cost contract like today but where the operator keeps part of the revenues.

Quality requirements for environment, disabled persons etc are good given that objective only and not methods are specified, thereby making use of the innovative capability of the operator.

London Authority: *London Buses Tendered Bus Division (TBD)*

Operation

TBD specifies route alignment and service frequency. Scheduling and rostering is left to the operator, thereby making use of the operator's innovative capability.

For canceled operations, the operator pays the contracted price per kilometer. Since this price covers overheads, the operator will be penalized for lost kilometrage even without an excess penalty. The operator should produce at least 98 percent of contracted operation during 40 out of the last 52 weeks and during 10 out of the last 12 weeks. If this criterion is not fulfilled, operation will be lost. The present average figure is 99 percent.

Quality

Specifications are used for door arrangements, etc., but not for exhaust gases or floor height. Color of buses is not specified. The symbol of London Transport is sufficient. It is considered important that the operators can use their own colors for their "team feeling" and pride.

One does not believe in sanctions concerning quality. It is extremely expensive to monitor quality in any way that seems fair. If the operator does a poor job, he will lose it anyway.

Municipal operator: London Buses: East London Bus and Coach Company

Operation

The requirements are reasonable. Further sanction would be useless. The most important aspect for the operator is to renew the contract.

Quality

One is pleased with the requirements.

Private operator: Grey-Green Coaches

Operation

The requirements are reasonable. Further sanction would be useless. The most important aspect for the operator is to renew the contract.

Quality

One is pleased with the requirements.

Discussion

There is an apparent difference between views on sanctions and incentives in Sweden and Copenhagen on the one hand and in London on the other. I can agree with the criticism that incentives related to quality may be difficult to carry out in practice.

I am a bit confused over why such a simple method as part of revenues has not been considered, except by an operator in Copenhagen. The arguments against revenue sharing is that there are so many things that influence the level of revenues, like taxation on cars, price changes, etc. But does that matter that much? If the bonus is related to a percentage of the revenues, exogenous reasons for changes in revenues will of course influence the bonus, but only to a small degree and probably in the same direction for all operators. The incentive is still there.

F. Principles for tendering and contract periods

Stockholm *Authority: Storstockholms lokaltrafik AB (SL)*

In its first tender, SL applied sealed bids followed by negotiations with the three most interesting bidders. The negotiations concern, not bid prices, but modifications of route alignments, quality aspects, etc. In

all cases, the lowest bid was chosen. In one package, the winner (state owned Swebus) had, however, proposed a modification where a route was shortcut, implying both cost savings and an extra transfer for some passengers. SL calculated that the cost savings were larger than the value of the extra transfers, and the proposal was accepted. SL Buss was never given the opportunity to bid on the same modified network.

SL so far applies three years contracts. The contract period may however be longer in future tenders. One may also prolong the contract without new tendering to avoid the costs of the tendering procedure.

Municipal operator: SL Buss

Three year contracts are too short. Planning becomes difficult. It may be difficult to obtain certain types of personnel when job security is so short termed. Five year contracts would be better, but negotiations about renewals would also be fine.

Göteborg *Authority: Trafikkontoret*

Contract period is five years. Bidders may propose modifications concerning route alignment, frequency, combinations of packages, etc. For proposals that are considered interesting, a new bidding round is carried out for these new proposals so that all bidders are given the same opportunity.

Malmö *Authority: Länstrafiken Malmöhus*

The contract period is four years but one would wish option for extension with one year.

Copenhagen *Authority: Hovedstadsområdets Trafikselskab (HT)*

All bidders are given two hours discussion to clarify all details about requirements, etc. Then HT discusses minor modifications in timetables etc with the winner. If the winner proposes operational changes which save money without hurting the passengers, the gains are taken by the operator. Price is not discussed.

Contracts are for four or five years. One may negotiate about extensions.

Private operator: Birkerød Buscompagni A/S

The discussions with HT run smoothly. One does not want to discuss prices after bidding.

Eight year contracts would be better. Investments in vehicles, etc. could be made more economically.

London *Authority: London Buses Tendered Bus Division (TBD)*

Frequency and bus size can be discussed with the winner. As long as the number of seats meets the specification, the operator can propose smaller vehicles and higher frequency. Price is never discussed.

The contract period is three years. If the operator has performed well, a renewed two to three year contract is negotiated. The guide-line is that the operator must reduce the price in real terms of 2.5 percent. If the contract is to be renewed a second time, the price must be reduced five percent. These percentages may differ between operators dependent on the results of the negotiations.

Municipal operator: London Buses: East London Bus and Coach Company

The discussions with TBD work well.

Five year contract with a five year renewal would be optimal.

Private operator: Grey-Green Coaches

The discussions with TBD work well. Since TBD knows about the huge profits of Grey-Green (13.65 percent in 1992), one can imagine that they will be tough in the next negotiations.

Discussion

Stockholm seems to be the only place where a winning bid had another route alignment than specified in the tender specifications and where no other bidders were given the opportunity to bid on the same modified alignment. The consequences can be analyzed in the following way. Assume that three bidders give the prices C_1 , C_2 , and C_3 . Assume that $C_1 < C_2 < C_3$. C_1 is the price given by the bidder who proposes a shortcut. SL calculates that the loss for passengers in terms of more transfers is worth B . It is found that $C_1 + B < C_2 < C_3$, implying that bidder number 1 is chosen. But assume that bidders 2 and 3 were given the opportunity to bid on the same modification and then give the prices C_2' och C_3' . In that case, one should compare $C_1 + B$ with $C_2' + B$ and $C_3' + B$. We can no longer tell that bidder number 1 would win. The following conclusions are drawn from the policy that not all bidders are allowed to bid on modified networks:

a) It is not sure that the cheapest bidder will win. b) If all operators are not informed about the possibilities to modify the network, competition is biased. c) If, on the other hand, all operators are informed about the possibilities to modify the network, there is a certain risk that one does not know what the bidding is about. The number of alternative networks may be large and consequently also the costs for evaluation and negotiations. The risk itself may also increase bid prices.

The policy applied in Göteborg where all acceptable bidders may give a second bid on interesting modifications seems preferable.

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Interviews:

Stockholm

Authority: Storstockholms lokaltrafik AB (SL)

Interviewed person: Kjell Åbrink

Municipal operator: SL Buss

Interviewed person: Anders Sjöberg

Göteborg

Authority: Trafikkontoret

Interviewed persons: Claes Westberg, Magnus Arnström

Malmö

Authority: Länstrafiken Malmöhus

Interviewed person: Göran Lundblad

Municipal operator: ML Malmö Trafik AB

Interviewed person: Bo-Christer Jönsson

London

Authority: London Buses Tendered Bus Division (TBD)

Interviewed person: Nick Newton

Municipal operator: London Buses: East London Bus and Coach Company

Interviewed person: Barry Arnold

Private operator: Grey-Green Coaches

Interviewed person: John Pycroft

Copenhagen

Authority: Hovedstadsområdets Trafikselskab (HT)

Interviewed persons: Bjarne Nielsen, Hans-Henrik Christiansen

Private operator: Birkerød Buscompagni A/S

Interviewed person: Finn Sørensen

