

# Competitive pressure as an alternative to competitive tendering? The development of a performance contract in Oslo

Chief researcher Bård Norheim  
Institute of Transport Economics Norway

## ABSTRACT

*In 1991, a customer orientation project was launched in Oslo, spurred by reduced subsidies, and the possibility of competitive tendering being introduced in the operation of public transport. The long-term goal was a 25% increase in traffic before year 2001, through a policy of «more satisfied customers». Public transport in Oslo has increased annually, from 136 million journeys in 1992, to roughly 153 million in 1997.*

*In 1998 we proposed a new quality contract based on the quality monitoring system and performance-dependent subsidies. If the company fails to keep the quality level within defined borders, we propose that the contract will be cancelled and opened for tendering. The first step of this contract was introduced in January 1999. This paper will present the Oslo model and the experience after 7 years with the different types of quality monitoring systems and contracting public transport.*

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# 1. Introduction

Tendering is extensively used within local public transport in Scandinavia. About 80 percent of publicly served routes in Sweden and Denmark are open to tenders. Norway is an exception as the proportion of tendered services is only about 2.5 percent. Nevertheless, there are no signs suggesting that public transport operations in Norway are less cost-efficient than those in the other Scandinavian countries, and the level of subsidies is much lower. During the last ten years, subsidies have been reduced by 42 percent and in a number of towns, public transport receives no subsidy at all (1).

In Norway, it is not the tender as such, but the threat imposed by tendering, which is the main reason for this development. As from 1991, efficiency agreements have dominated the contract form in Norway. In these contracts, specific cost cutting or subsidy reductions have been agreed as a condition for the routes not to be tendered. An examination of the effects of these efficiency agreements reveals that the public transport companies have achieved a cost reduction of between 1.5 and 4.5 percent annually (2), but that even companies which did not have specific agreements also experienced considerable increases in efficiency in the period.<sup>1</sup>

One of the cities which has experienced the most comprehensive restructuring during recent years is Oslo, where subsidies have been reduced in parallel to an increase both in productivity and the number of passengers. From 1999, a new performance contract form has been introduced with a stronger focus on productivity and increased numbers of passengers. This is the first stage towards a new type of subsidy contract developed by the Institute of Transport Economics commissioned by AS Oslo Sporveier – Oslo Public Transport (the municipal public transport authority). The long-term objective is a performance contract where all subsidies depend on the level of performance. In this paper we examine more closely the structural changes which occurred in Oslo and the background for the new contract form which has been proposed.

## 2. The customer orientation project

In 1991 a customer orientation project was launched in Sporveien, spurred by reduced subsidies, and the threat of competitive tendering. The long-term goal was a 25% increase in traffic before year 2001 through a policy of «more satisfied customers». Implementation of the customer orientation strategy included:

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<sup>1</sup> For additional information: Kjell W. Johansen. *Contractual form and performance in the Norwegian bus industry 1986-97* at this conference.

- ✓ Systematic collection and use of market information
- ✓ Efficient utilisation of resources based upon improved market knowledge
- ✓ Staff development, delegation and decentralisation
- ✓ Infrastructure development, improved services and facilities
- ✓ Continued emphasis on overall efficiency
- ✓ Introduction of a «Travel Guarantee»

### **A new quality monitoring system**

Oslo Public Transport Authority has two important sources of data from which information relating to the public's evaluation of the quality of services may be derived:

1. Passenger satisfaction surveys
2. The Travel Guarantee arrangement

### **Customer satisfaction surveys**

Since 1992, Oslo Public Transport has conducted so-called "customer satisfaction measurements" in order to register how passengers experiences the various aspects of quality and the level of services of public transport in Oslo. The surveys have been carried out annually, and 2000 questionnaires were sent to a representative sample of the population. The quality parameters measured included purpose of the journey, travel time, information, soft service attributes, amenities at transport stops, means of transport, fares and discount systems, and the route network. Further, aspects relating to the use of various means of public transport, journeys and passengers themselves, were registered. As from 1996, the surveys were extended and in addition to customer satisfaction/service quality, the frequency and extent of journeys and comfort was measured also. The surveys are described in Table 1, grouped by strategic, tactical and operational levels.

Table 1: Overview of Oslo Municipal Transport on-going market surveys

Measurements	Customary travel	Quality of services	Journey satisfaction
Level	Strategic level  What influences travel customs, and how has the share of public transport developed?	Tactical level  Satisfaction with various aspects of the public transport system	Operation level  How does the passenger experience the particular journey on a given route?
Number of interviews per annum	2000 interviews among Oslo residents aged 16 and above	Approx. 1500 interviews among Oslo residents aged 16 and above who have used public transport within the last six months	Approx. 5000 interviews among Oslo residents aged 16 and above who have used public transport within the last seven days
Frequency	On-going with tri-annual reports	On-going with tri-annual reports	On-going with monthly reports
Content of surveys	Choice of transport means Market share Purpose of journey Transfer points Journey Type of ticket	Price Stopping places Ticket system Journey and journey time Transport network Safety and control	Frequency Transfer Punctuality Operational interruptions On-going information Advertising Comprehensibility Driving style Available seats Cleanliness Safety Payment Service quality

## Travel guarantee

In addition to the on-going surveys, the Travel Guarantee provides a good indication of the extent to which Oslo Public Transport has provided an acceptable travel service in the view of passengers. The Travel Guarantee is a completely unique quality indicator as it emphasises the fact that passengers have specific rights in respect of the services offered by Oslo Public Transport, and compensation is given when the service fails to meet these objectives. By contrast to most other travel guarantees on the market, the conditions are such that in theory the traveller shall receive compensation for any inconvenience when the terms of the guarantee are not met. In a number of other guarantee forms the passenger is only covered to the extent of the cost of the journey, i.e. they receive a refund for the fare.

The introduction of the Travel Guarantee shows an increase in the total number of complaints from under 1000 per month to approximately 2000 per month (3). The general level has since declined slightly, although there are large variations from month to month. The extent of these monthly variations in the Travel Guarantee is considerably broader than that of the development of the quality indexes. This should be seen in connection with the fact that the number of complaints is extremely small compared to the total number of journeys undertaken, amounting to just 0.02% of monthly journeys whereas the percentage who are very dissatisfied is about 3%.

Both the customer satisfaction measurements and the Travel Guarantee are important indicators of the development of the quality of services as experienced by the passenger. Compensation given to passengers when the system fails is larger than the “fine and bonus” systems introduced in Copenhagen, for example, and in other cities with similar arrangements (4). But the main difference in these quality assurance contracts is that compensation is paid directly to the passenger concerned. This is an important principle which makes the Travel Guarantee a better alternative than the other quality contracts we have seen.

The Travel Guarantee is also an indicator to passengers that they have certain rights and that Oslo Public Transport makes compensation if the expected service is not delivered. The extent to which this is regarded in a positive light depends upon whether the compensation paid is commensurate with the inconvenience experienced. This implies that the Travel Guarantee is a necessary condition for the development of a simple and manageable performance-dependent subsidy system. At the same time there is a considerable degree of measurement uncertainty in both the guarantee and the customer satisfaction studies:

- ✓ In the Travel Guarantee there are relatively many marginal incidences which do not meet the demands for compensation, but which nevertheless may be experienced as an unsatisfactory level of service.
- ✓ There is relatively large degree of uncertainty associated with the survey method of customer satisfaction, which result in considerable random variations between the different periods.

This uncertainty can create a “credibility problem” for the operating companies if they are to be used in the specific quality measures. Caution must also be exercised in incorporating these measurements into specific subsidy agreements, i.e. they are related to the level of subsidies but without consideration being paid to this uncertainty. In our analyses of a new quality contract for Oslo Public Transport, we have, as a consequence, recommended that these quality measurements are *not* to be associated with the level of subsidy, but rather seen as a framework for the contract between Oslo Public Transport and Oslo City Council. This implies that the contract may be terminated or renegotiated if journey quality measurements fall below a certain level. With long-term contracts, this is an effective “safety net” for ensuring that quality does not depreciate markedly, and that a significant “competitive pressure” can be developed.

### 3. Increased market efficiency

The Institute of Transport Economics has conducted an analysis of the effects of the high subsidies in Oslo compared to four other urban regions<sup>2</sup> (1). This analysis shows that during the period 1986-97, subsidies to public transport in Oslo have been halved, measured in constant prices per vehicle-kilometre (Fig. 1). This corresponds to a reduction in subsidies of about 50 percent in 1986 to 30 percent in 1997. Simultaneously, the development has been uneven in that the largest reductions occurred before 1992, subsequently remaining fairly stable. This implies that the passenger-orientation project commenced following a period with considerable reductions in subsidies, and where the companies had increased fares as well as reduced costs in order to meet these cuts. In constant NOK, fares increased by about 30 percent up to 1992, whereas costs were reduced by about 10 percent. Cost efficiency has continued after 1992 while the level of fares has been slightly reduced. In our analyses, we have concentrated on both the commercial and socio-economic consequences of the reduced subsidies to public transport in Oslo. The basic economic analyses are relatively straightforward analyses of how the cuts in subsidies per vehicle-kilometre have been covered. These analyses show that for Oslo, the increase in revenue and cost efficiency is, in fact, greater than the subsidy cuts per vehicle-kilometre. In total, 116 per cent of the subsidy cuts have been covered by a reduction of 85 per cent in reduced costs and 29 percent by increased fares. Oslo clearly differs from the other three cities (Bergen, Trondheim, and Tromsø) where subsidy cuts have been considerable, but where between only 50 and 85 percent of the cuts have been covered. This is related to the fact that there has been a relatively good income margin in several companies, but also that they have reduced subsidies more by comparison to Oslo. Public transport in Bergen Trondheim, and Tromsø is operated today virtually with no subsidies at all.

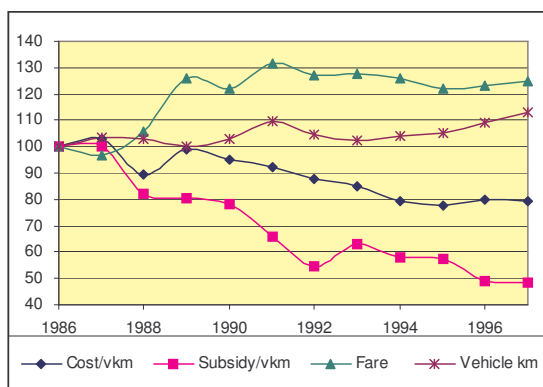


Figure 1: Development of cost, subsidy and revenue per vkm in Oslo Public Transport 1986-97 Real monetary terms, index 1986=100

<sup>2</sup> Oslo, Bergen, Trondheim, Kristiansand, Tromsø,. Subsidies have been increased in Kristiansand.

As shown by the figure above, a considerable proportion of the reduced subsidies is covered by increased fares. But at the same time, the route network has increased by about 10 per cent. In order to evaluate the real efficiency savings of these subsidy cuts, we must therefore analyse the socio-economic consequences of these changes, when regarding the effect of car traffic as well as costs for current passengers. We have carried out an analysis of the demand effects of changes in fares and services in addition to the quality of the service. The demand analysis revealed a price elasticity of – 0.29, and a supply elasticity (vehicle-kilometre per capita) of 0,40 for Oslo, while this was somewhat higher for the other urban regions. The subsidy cuts in total have resulted in a decline of about 8 per cent in total journeys per inhabitant up to 1992, increasing thereafter up to 1997. In total, the decline in number of journeys per inhabitant associated with this sector of public transport has been about 4 per cent, but there has been an *increase* of about 4 per cent from 1992-97.

## **Net savings**

The evaluation of the net savings in Oslo and the four other cities will depend on the effect of increased car traffic and increased travel costs for the public transport passengers. An overall review of the five urban areas shows that of the total subsidy cut of NOK 592 million, net savings are only NOK 135 million (22 per cent) when we take into consideration the increased costs for other actors (Table S.1). This suggests that 78 per cent of the subsidy reductions have been distributed as NOK 77 mill. (13 per cent) as a consequence of increased road traffic, NOK 33 mill. (6 per cent) as reduced service frequencies, and NOK 347 mill. (59 per cent) as increased fares. In addition to the fact that reduced subsidies led to a 7 per cent decline in the number of passengers, the remaining passengers have experienced a 25 per cent higher fare level. A significant proportion of the reduced subsidies have thus been “financed” by the passengers, thereby weakening the competitiveness of the public transport sector. This may in the long term result in a further decline in the number of passengers.

Our analyses also show that in the first part of the period, up to 1992, the transport companies experienced a real efficiency gain while after 1992 the costs have largely been passed on to the passengers. When we regard all the five urban areas together, there has been an efficiency loss of NOK 20 million after 1992. These calculations show that there has been a considerable potential for efficiency within the sector, but that this was essentially reaped before 1992.

The picture is much better in Oslo. There has been a significant and real increase in efficiency throughout the whole period. In sum there have been annual savings of NOK 141 million, corresponding to 40 per cent of the total cuts in subsidies. At the same time it is important to remember that there is a considerable proportion of rail- and tramways in Oslo (about 60%), which indicates that current cost levels can be unproportionately low due to previous investments. This suggests that long term savings for Oslo can be somewhat less than the “short-term” period examined

here indicates, and that this difference is more significant than for other cities. Nevertheless, a substantial efficiency gain has been experienced in Oslo, in a period without decreasing subsidies.

Table 1: Socio-economic consequences of changes in the public transport sector.<sup>1</sup> Mill 1997 NOK.

	SUM 5 TOWNS			Oslo		
	1986-92	1992-97	1986-97	1986-92	1992-97	1986-97
Changes in subsidies	-462	-129	-592	-352	-1	-353
Costs of increased road traffic	45	32	77	35	-1	34
Costs for passengers						
Increased travel time	-19	-12	-31			
Reduced frequency	-	33	33		-10	-10
Increased fares	251	96	347	206	-17	188
Net savings	-185	20	-166	-111	-29	-141

## 4. Development of a new performance contract

The next step towards increased customer orientation was launched in 1999, based on a new performance contract between the municipality and Sporveien, based on a study of alternative contracts made by TØI. The main objective of this study was to examine the possibilities of developing an alternative subsidy model, compared to the current model as well as to traditional tendering procedures. Such a model can provide an incentive to develop more market-efficient and cost-efficient public transport, i.e. the model will take into consideration the needs for:

- ✓ Customer-oriented product development
- ✓ Long-term planning and product development
- ✓ Co-ordination of the route network in an integrated transport region
- ✓ Clearly defined and predictable goal parameters

We have investigated whether it is possible to develop quality-dependent subsidy contracts subject to conditions and subsidy arrangements which, utilising commercial objectives (profit maximisation), will develop an optimal service in the interests of society in general<sup>3</sup>.

The quality-dependent subsidy contracts imply that the market initiative including responsibility for long-term planning and product development will become the responsibility of the public transport

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<sup>3</sup> For additional information: Odd Larsen: *Regulation monopolies in urban public transport – can we design proper regulations and incentives?* Presented at this conference



companies, while stringent terms will be imposed by the authorities in respect of conditions and goal achievement.

Commencing with the basic characteristics of the public transport market, we have developed a subsidy model which both encourages increased ridership as well as increasing the benefit of existing passengers.

Our calculations show that it is possible to develop a subsidy contract that effectively combines a commercial objective for Oslo Public Transport Company with a socio-economic maximisation within the present subsidy framework. This would amount to a social benefit of some NOK 300 million p.a. According to our calculations, this subsidy model would result in a 150 percent increase in service frequency and a fifty-percent reduction in capacity per departure.

### **Quality contracts need to be developed**

In these analyses we have shown that there is a considerable rationalisation effect, both regarding market efficiency and production efficiency as a consequence of adapting to quality-dependent subsidies. However, this will depend upon:

- ✓ the level of freedom to adjust fares and services
- ✓ the possibilities for rationalisation and a re-allocation of resources over time.

The details of a subsidy arrangement of this kind, and any possible provisional or transfer arrangements must thus be the subject for negotiation, thereby affecting the “optimal” level of the individual subsidy elements. A more detailed description of a new subsidy model must be developed when these parameters are determined.

As a basis for this subsidy contract we have attached importance to simple and perspicuous goals which do not require extraordinary and complicated calculations. Our survey of AS Oslo Sporveier’s on-going quality controls shows that there is a sound basis for developing this form of contract without necessitating major changes in routines. The fact that the data from both the customer satisfaction surveys and the travel guarantee are obtainable for a considerable period provides us with a solid basis for an evaluation of the current situation. On the basis of the analyses undertaken in this document, we will propose that the development of quality contracts in Oslo should be built upon the following main elements:

- ✓ Competitive pressure and level of freedom
- ✓ Quality-dependent subsidies

- ✓ External conditions
- ✓ Provisional arrangements

### **Framework with minimum demands for quality of contract**

We propose that the Municipality of Oslo define a framework for the contract specifying the minimum requirements for quality to be fulfilled. The framework for the contract should comprise a minimum level of quality regarding price, service and accessibility, which the authorities wish to maintain.

We also suggest that the following elements be included within this framework:

- ✓ The Travel Guarantee system is retained and extended
- ✓ The Customer Satisfaction Index is used as an indicator of quality, allowing the contract to be terminated or renegotiated in the event of the indicator falling below a specified level
- ✓ The area coverage, defined as the number of bus/tram stops or stations per square kilometre shall not be below the agreed-upon level
- ✓ The average fare rate shall not rise above a level that has been predetermined.

In addition, the municipality must define the general level of service and supply, which provides the basis for the subsidy contract.

### **Quality-dependent subsidies**

Within the framework of the agreement, we will propose that Oslo Public Transport enter into a quality-dependent subsidy contract with the Municipality of Oslo, where the key elements include the following:

1. Oslo Public Transport receives a flat-rate subsidy per kilometre for regular routes
2. The subsidy depends on whether there are extra inputs during rush hours or are included in the basic service
3. Oslo Public Transport may determine the number of bus/subway kilometres in the network which the company will operate at any one time
4. For peak-passengers, Oslo Public Transport will, in addition to fare revenues, receive a fixed subsidy per passenger journey

5. The subsidies are paid on an on-going à-konto basis based on provisional estimates. The final account is settled at the end of the year, as soon as all statistics and data are presented

Within this framework, Oslo Public Transport must operate financially autonomously, and will be judged according to its commercial results – following the subsidies.

### **The Municipality must ensure appropriate conditions for public transport**

We suggest that the contract contain a mutual responsibility for both Oslo Public Transport and Oslo Municipality along lines similar to those in the Swedish city of Helsingborg. This implies that the municipality commits itself to carry out all necessary measures in order to achieve the jointly defined objectives and immediately consider all proposals from Oslo Public Transport which can provide a better basis for fulfilment of the contract.

### **Provisional arrangements with an intention of pursuance**

A contract of this type will be quite demanding for Oslo Public Transport, as it requires the company to have a comprehensive understanding of cost structure and transport demand. The subsidy arrangements will stimulate an increase in services, but at the same time the vehicle capacity is likely to be reduced.

One assumption for achieving the full effect of this type of model is that long term, stable conditions exist, allowing a re-disposition of the service routes and vehicle fleet. This will give Oslo Public Transport a greater degree of freedom in negotiations, at the expense of the political authorities. This freedom implies, however, a greater economic responsibility for the service.

This suggests a requirement for a provisional arrangement if a subsidy model is to be introduced. For Oslo Public Transport some time will be required before the vehicle fleet is changed, thus it is not possible to reap the full benefit of a new subsidy model from the very first day. This 'lag' and the restructuring costs must be taken into consideration prior to the introduction of this type of contract.

The City Council in Oslo has agreed to the main principles of this form of 'quality contract'. As a first step in this direction, the City Council has approved a clause in the 1999 budget, whereby a specific proportion of the operating subsidy to Oslo Public Transport is to be performance-dependent. In addition to a fixed subsidy of NOK 472 million, a performance-dependent bonus of NOK 37.3 million has been allocated dependent upon either increased route production or an increased number of passengers. This allocation amounts to about 7 per cent of the maximum subsidy grant, or about 8 per cent of the fixed amount. The arrangement is to be under continual assessment, and the measures instituted will be effective during the latter half of 1999. The City Council intends to extend the arrangement during the

year 2000. Provisional experience from the arrangement will be reported to the Council in connection with the budget proposals for 2000.

*Table 3.1: Subsidies to Oslo City Transport by basic and performance-dependent transfers: Source: Oslo City Council.*

Purchase of service	Mill. NOK	Proportion
Basic amount	472,4	93 %
Maximum performance-dependent amount	37,3	7 %
Maximum subsidy	509,7	100 %

### **Performance-dependent criteria**

The City Council has attached particular importance to measures instituted covering periods of high traffic density/rush hours, based on the following criteria:

- ✓ Increased frequencies during rush hours
- ✓ Increased capacity (place-kilometres)
- ✓ Start-up costs
- ✓ Increased total number of passengers

The level of incentives and maximum payments in 1999 are presented in Table 3.2. Here, a bonus of NOK 1000 is obtained for every additional departure in rush hours; NOK 0.5 per extra place-kilometre, and NOK 4 per extra passenger. A further NOK 1.5 million has been allocated to extended marketing/start-up costs. The table also shows the maximum payments and base levels for the various goal criteria. As can be observed, the largest proportion of the bonus is related to total journeys (56%), while increased frequency and seating capacity are each apportioned a 20% bonus.

*Table 3.2: Performance objectives and maximum limits for payments in 1999*

Performance objectives	Incitement	Max limits	Proportion (%)
Rush hour departures	NOK 1000 pr departure	7 500 000	20
Place-kilometres	NOK 0.5 per place-kilometre	7 500 000	20
Passengers	NOK 4 per passenger	20 800 000	56
Start up costs		1 500 000	4
Sum		37 300 000	100

This is the first stage in a performance-dependent subsidy. In Norway, similar contracts are being developed in two other regions, but the conditions of the contracts will differ. This requires a detailed understanding of cost structures, and that the threat of tendering is genuine. Experience and the evaluation of these contracts suggest that this is the correct way to go and will suggest whether other elements should also be included in this type of contract. Nevertheless, we consider that that the centre of focus should be product development and market efficiency in contracts being prepared for future public transport. In this respect, “the threat of competition” can be a more effective means than competitive tendering.

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## CURRICULUM VITAE

**Name:** NORHEIM, BÅRD  
**Personal data:** Born 1959  
**Nationality:** Norwegian  
**Present position:** Chief Research Officer, Institute of Transport Economics, Oslo, Norway  
1986 Economist (cand oecon), University of Oslo, Norway

### Selected Publications :

Norheim Bård and Stangeby Ingunn (1993)  
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**El Transporte Publico** Barcelona 1998 *Passengers' valuation of service improvements*  
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