

## WG 3 “Market Organisation – Contracts, incentives and monitoring”

Background Paper for the fourth WG Meeting in Prague, 9th and 10th October 2008

### *Purpose and content of the working paper*

One of SPUTNICs Clusters deals with “Market Organisation”. Within this Cluster four topics have been identified to be dealt with in four separate workshops: “integration and tariff systems”, “institutional framework and cooperation”, “innovative funding & financing solutions” and “contracts, incentives and monitoring”.

This working paper serves as a discussion basis for the forthcoming fourth<sup>1</sup> workshop taking place in Prague, 9<sup>th</sup> and 10<sup>th</sup> October 2008. It gives a short overview on the topic including problems, key challenges, important definitions and potential solutions.

### *Scope of the workshop and definitions*

The forthcoming workshop in Prague is dedicated to the topic “Contracts, incentives and monitoring”. **It will focus on the (contractual) relationship between the commissioning authority (i.e. the public authority or the organising entity) and the operator.**

If formalised this relationship is specified in a so called **Public Service Contract (PSC)**. According to the new EU Regulation 1370/2007 (which has been presented at the second SPUTNIC Working Group Meeting in Zagreb) a PSC means “one or more legally binding acts confirming the agreement between a competent authority and a public service operator to entrust to that public service operator the management and operation of public passenger transport services subject to public service obligations; depending on the law of the MS, the contract may also consist of a decision adopted by the competent authority taking the form of an individual legislative or regulatory act, or containing conditions under which the competent authority itself provides the services or entrusts the provision of such services to an internal operator”.

Public service obligation thereby means “a requirement defined or determined by a competent authority in order to ensure public passenger transport services in the general interest that an operator, if it were considering its own commercial interests, would not assume or would not assume to the same extent or under the same conditions without reward”.<sup>2</sup>

The quoted definition of public service obligation indicates that the interests of the two contractual partners (authority and operator) need not necessarily to be in line. The workshop will therefore also address the aspect of **incentives** that can be incorporated in a PSC in order to incite the operator to perform (with respect to price and service quality) according to the interests of the commissioning authority. In economics, an incentive is any factor (financial or non-financial) that provides a motive for a particular course of action, or counts as a reason for preferring one choice to the alternatives.<sup>3</sup>

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<sup>1</sup> The first workshop took place in spring 2007 in Barcelona and was dedicated to the topic “Integration and tariffs”; the second workshop took place in autumn 2007 in Zagreb and was dedicated to the topic “Institutional framework and cooperation”; the third workshop took place in spring 2008 in Leipzig and was dedicated to the topic “Innovative funding and financing solutions for urban PT”. For further information on these workshops see [www.sputnicproject.eu](http://www.sputnicproject.eu)

<sup>2</sup> EU Regulation 1370/2007

<sup>3</sup> [www.en.wikipedia.org](http://www.en.wikipedia.org)

In spite of incentives the commissioning authority will have to verify whether the operator is performing according to the conditions attached to the contract. In the workshop we will therefore also discuss different **monitoring systems** for monitoring the performance of the operators. Monitoring refers to the regular and “systematic collection of data on specified indicators to provide stakeholders of an ongoing activity with indications of the extent of progress and achievement of objectives”.<sup>4</sup> With respect to the scope of our workshop monitoring system thereby not only means a method to control the fulfilment of the contract (financial and quality aspects) but also includes all general methods to evaluate or measure the operator’s performance as a decision basis for the future organisation of the PT market (e.g. benchmarking among different operators, tendering decisions etc.).

However, as the workshop focuses on the relationship between authority and operator, any company internal monitoring systems (internal performance indicators for management purposes such as Balanced Scorecard etc) are outside the scope of the workshop.<sup>5</sup> The same goes for monitoring systems aiming at measuring the overall quality of the whole PT system as a basis for the optimisation of the PT offer.

Whether the contract is directly awarded or tendered does not impact on the share of responsibilities and tasks between the actors. Therefore, the question of liberalisation and tendering is not part of the workshop.

### ***Problems and key challenges***

Although a recent study on contracting in urban PT<sup>6</sup> identifies a growing usage of contracting in a number of countries and cities, a main challenge for many PT operators especially in countries in transition are the unstable, often changing legal and organisational framework conditions. This lack of long-term stability also hinders the setting-up and implementation of long term planning strategies, for PT as a whole as well as on the company level.

Division of responsibilities among PT actors is often unclear in many cities, regions and countries undergoing rapid economic development resulting in a paralysing lack of initiative. In CEEC there is traditionally a strong political interference on PT. Liberalisation, separation of powers and formalisation of the relationship between authorities and operators is not yet very common. Authority and operator are not sufficiently separated resulting in a lack of control regarding efficiency and effectiveness of the service provision. Public Service Contracts in which responsibilities are defined and the terms of fulfilment are set, are not the rule. PSC is a relatively new concept in these countries. The absence of PSC also blocks the access to funds for improvement of PT systems that would be available from International Finance Institutions such as EBRD or EIB who both subject their loans to the existence of a PSC.

Even if there is a negotiated PSC between operators and authority, the authority often does not act according to the rules of the contract. The impression is that the contract partners are not reliable and that there is a latent distrust caused by the unclear regulatory conditions mentioned above. For example many operators in CEEC complain about the reducing of the negotiated subsidies in a manorial manner. Due to this the long term as well as even the short term planning of a high quality PT is not possible.

<sup>4</sup> based on OECD: Glossary of Key Terms in Evaluation and Results Based Management

<sup>5</sup> These systems are treated within SPUTNIC in the cluster Corporate Management

<sup>6</sup> inno-V et al, Contracting in urban PT, 2008, p. 25

In a number of countries national legislation requires operators to give very large discounts to certain groups of passengers. However, compensation mechanisms for these concessionary fares to the operators are in many cases unclear.

In this problem area the new EU Regulation 1370/2007 on public passenger services can and should be the kick-off for improvements. Many of the practices mentioned above are not in accordance with the new regulation which requires

- the existence of a PSC whenever an authority decides to grant the operator an exclusive right and/or compensation in return for the discharge of public service obligations
- that compensation rules and other relationships between authorities and operators shall be clearly defined and published regardless if the operator is in-house or not.
- that the method of compensation [to the operator; ed.] must promote the maintenance or development of effective management by the public service operator, which can be the subject of an objective assessment and the provision of passenger transport services of a sufficiently high standard.

All over Europe PT services relying on public funds experience pressures to increase efficiency and productivity. However, presently many operators (in CEEC and elsewhere) have few incentives to cut costs and increase quality and revenues as they receive a gross-cost subsidisation for running their services – independent of their performance. It is a challenge for PT to organise the market in a way that subsidies are entirely used to guarantee and safeguard the well defined socioeconomic, environment and quality-related objectives of PT. Incentive schemes have to be set up that bring in line the different and sometimes conflicting interests of profit maximising operators and welfare maximising authorities.

Quality expectations of existing and potential PT customers are increasing. Competing with the private car, the quality level of PT plays a crucial role for maintaining and increasing the modal share of PT. This holds especially true in the new MS where PT may risk becoming a service to marginalised groups of society (the more affluent groups see the car as a good way to show their newly attained position). Maintaining existing market shares might be even more difficult in 'mature' economies, for instance long-term monitoring in Sweden of public satisfaction with PT shows a slightly downward trend, although it is claimed that the PT sector has gained a stronger customer focus.<sup>7</sup>

For various reasons the PT industry still is rather production oriented than customer oriented. It is therefore no surprise that in spite of the rising quality expectations of the customer's quality and performance monitoring systems where certain financial and/or quality indicators are constantly collected are still scarce. Such systems would not only enable the authorities and operators to improve service levels but could also be used as a dialogue instrument to reassess the organisation of local PT services.

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<sup>7</sup> <http://www.slrf.se/fileupload/ereportdok/Swedish%20Public%20Transport%20Barometer.pdf> link to system description, reports are only available in Swedish

Main challenges for PT with respect to the workshop's topic will be:

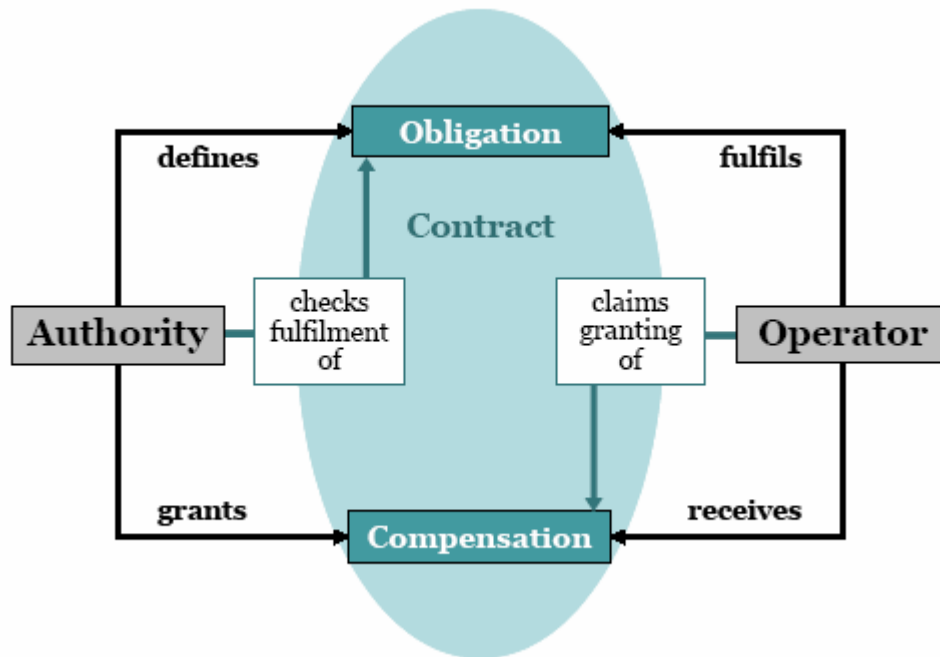
- to implement the new EU Regulation 1370/2007, i.e.
- to formalise the relationship between authority and operator by designing and implementing Public Service Contracts that clearly define the actors' responsibilities and tasks
- to allocate the responsibilities and risks for operators and authorities in a fair and efficient way
- to design and implement incentive contracts which induce operators to conduct their business towards the achievement of the strategic goals of the system, i.e. to increase efficiency and quality of PT
- to design and implement monitoring systems for the operator's economic and quality performance in order to measure quality and efficiency against the targets set, to enforce the fulfilment of the PSC and to reassess the current market organisation

Main questions to be discussed at the workshop will be:

- What is a good PSC? What different types of PSC exist and how are they used according to their strengths and weaknesses?
- What are the advantages/disadvantages of a PSC?
- How to set up and implement a PSC?
- How can incentive contracts improve quality and efficiency of PT operation and services?
- What kinds of incentives are suitable under certain framework conditions?
- What are the barriers and success factors when implementing incentive contracts?
- What kind of monitoring systems are appropriate under certain framework conditions?
- What monitoring systems can improve quality and efficiency of PT services?
- How to set up and implement monitoring schemes?

### Public Service Contracts

A public service contract defines the rights and duties of the contracting parties, authority and operator. As can be seen in the figure below the authority defines the operator’s obligations. The operator has to fulfil the contract and, in return, receives the right to a public compensation.



*Rights and obligations of the parties within a PSC [Source: inno-V et al. 2008]*

The last two decades have seen a growth in the use of contracts for PT services. Experience with contracting, with or without competition, has shown benefits for both the authority and operator, as well for passengers as for the wider community. In Brussels, for instance, the use of a management contract has enabled losses by the operator to be reduced and brought an increase in service quality.<sup>8</sup> The contract represents a balanced attitude towards the management of public services. Between the two extremes of public monopoly and total deregulation, the contract allows a precise definition of the responsibilities of all parties. Secondly, the contract is the expression of mutual and reciprocal commitments which ensure that the players are aware of their responsibilities, to the greater advantage of their customers.<sup>9</sup>

However, no single model of contracting has emerged. Classically, types of contracts are distinguished according to the allocation of risks between authority and operator. The share of risks is crucial, as obviously for a fair and successful contract the competencies and responsibilities should be distributed according to the share of risks. This share is made according to local circumstances and considerations. There are two categories of risks: the production risk in terms of operating and investment costs and the commercial risk in terms of revenues. According to their allocation, **three main types of contracts** can be distinguished (see also figure below):<sup>10</sup>

- **Management Contract:** production risk and commercial risk are both borne by the authority. The contract may include incentive schemes linked to the changes in revenues or changes in costs etc.

<sup>8</sup> VOYAGER, Del. 2

<sup>9</sup> UITP, A market in motion, 2005

<sup>10</sup> UITP, A market in motion, 2005 and Colin Buchanan, Guide to Contracts and Contracting in PT, 2003

- **Gross Cost Contract:** production risk is borne by the operator while the commercial risk is taken by the authority. The operator is remunerated by a contribution of the authority based on the costs. The remuneration can be modulated by a bonus/penalty scheme according to the evolution of quality, patronage etc. which enables the authority to modify the level of commercial risk.
- **Net Cost Contract:** Both production risk and commercial risk are borne by the operator. The operator is remunerated by the revenues and a complementary compensation payment for social fares and other public service obligations as well as a contribution of the authority based on the costs. The commercial risk can be modified by adjusting the complementary payment according to the real revenues.

In practice, the different risks are often shared, resulting in numerous forms of hybrid contracts. Pure types of Gross Cost Contracts or Net Cost Contracts are very seldom in every day-practice. Also Management contracts are not very common in the field of competition, they are an exception.

Contract Type	Bearer of Risk	
	Production risk (costs)	Commercial risk (revenues)
Management Contract	Authority	Authority
Gross Cost Contract	Operator	Authority
Net Cost Contract	Operator	Operator

Source: Colin Buchanan, *Guide to Contracts and Contracting in PT, 2003*

In order to allocate responsibilities appropriately, the market players, i.e. the authority and the operators, need to have a clear idea what their own interests are and what they want to achieve. It is therefore important that the authorities determine in advance what level of quality they wish to see and what price they are willing to pay for it. Clarity of what the public authority expects from its PT operators is therefore necessary to achieve the required level of service.

A PT authority which intends to set up a PSC with an operator first needs a clear picture of its objectives. For example, the question of who decides on the tariff has a large influence on the choice of the suitable contract type. If the tariffs are set by the authority a Net Cost Contract (that allocates the full revenue risk with the operator) might come along with too much risk for the operator. A hybrid contract or a Gross Cost Contract might be more suitable in this case. As a general rule, risks should be allocated according to competencies and responsibilities.

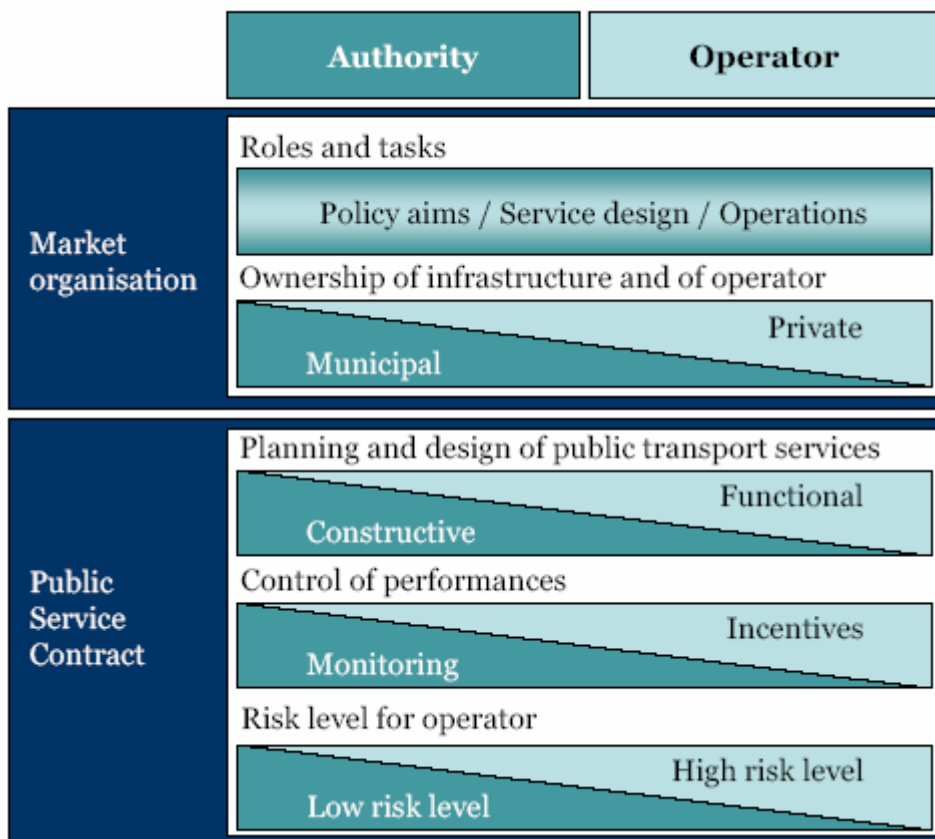
In the following table essential advantages and disadvantages of the two main contract types Gross- and Net Cost Contracts are shown<sup>11</sup>:

Type of contract	Advantages	Disadvantages
Gross Cost Contract	<ul style="list-style-type: none"> <li>• Reliable calculation for operator</li> <li>• Low barriers for market entry</li> <li>• High legal certainty</li> <li>• Enforcement of public interests (e.g. tariffs)</li> <li>• Unproblematic integration in PT</li> </ul>	<ul style="list-style-type: none"> <li>• No entrepreneurial interest</li> <li>• High depth of regulation</li> <li>• No planning reliability for public authorities</li> <li>• High monitoring charges</li> <li>• Marketing by PT authority</li> </ul>

<sup>11</sup> Borrowed from BAG SPNV, Wolfgang Dippel, Wettbewerb aus Sicht der Aufgabenträger des SPNV, Eisenbahntechnisches Kolloquium Darmstadt, 15.06.2004 and UITP study Incentive agreements in Public Bus Transport

Type of contract	Advantages	Disadvantages
	<ul style="list-style-type: none"> <li>associations</li> <li>• Competition neutrality</li> </ul>	
Net Cost Contract	<ul style="list-style-type: none"> <li>• Preservation of entrepreneurial interest</li> <li>• Lower monitoring charges – customer as “adjustment factor”</li> <li>• Constant amount of subsidy</li> <li>• Minimal requirements have to be defined</li> </ul>	<ul style="list-style-type: none"> <li>• Low legal certainty (in case of tendering because of missing database)</li> <li>• Higher risk for operators – risk premium and higher amount of subsidy</li> <li>• integration in PT associations more difficult</li> <li>• No incentives to consider social, environmental and political goals</li> </ul>

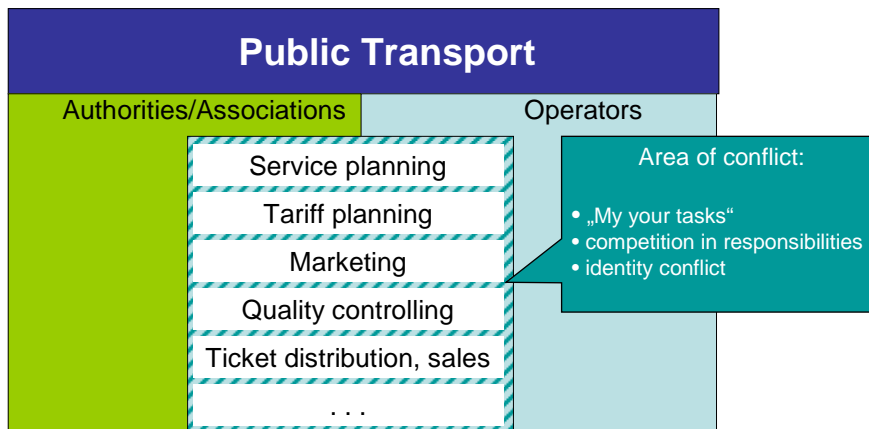
The two figures below show the relationship between PT authorities and operators as well as examples of most relevant tasks in the field of PT and their allocation.



Relationship between authority and operator [Source: Inno-V et al. 2008]



## Co-operation between VVO and operators



**Targeted co-operation (virtual company)**

**Regulation instruments (co-operation contract, service contracts, regular task forces)**



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[http://www.sputnicproject.eu/](http://www.sputnicproject.eu)



Co-operation between authority and operators (Source: SPUTNIC, 2<sup>nd</sup> Working Group Meeting WG 3: Market Organisation Zagreb, 05.10.2007)

The matters that have to be regulated in the PSC first depend on the allocation of risks and tasks between the actors and second on the type of contract resulting out of it. Due to these reasons the contents of PSC could vary in a significant way.

In general PSC signed between operator and authority regulate of the following aspects by defining the rights and obligations of both parties<sup>12</sup>:

- Duration
- Accurate description of required performance in mobility and service
- Process of ordering the public transport-services
- Accounting of transport services
- Prices, modalities of financing
- Setting of quality standards
- Evaluation of delivered quality
- Definition of bonus-malus-system

Furthermore a PSC for example also could contain:

- An indexation of price (subsidy) according to the development of energy and personnel costs
- Yearly customer surveys with defined targets
- Complaints reporting

<sup>12</sup> PRECO – Permanent Regional Cooperation, European Commission, Ecos-Ouverture Program

- Modalities in case of a change in service levels (e.g. additional vehicle kilometres)

The duration of PSC depends on the contracted PT mode (bus, railway, tram). Railway and tram services cause high investments in track and vehicles. For amortisation the duration of the PSC has to be adequate, in practice minimum 10 years up to maximum 15 years<sup>13</sup>. PSC for bus services normally have a duration between 8 years and 10 years maximum<sup>14</sup>.

## ***Incentives***

As illustrated, both types of contracts have advantages as well as disadvantages. The overall objective of incentives is to eliminate the disadvantages by making the objectives of the PTA and the operator's coincide. An incentive is a tool that can be incorporated in a PSC in order to make the operator contribute to the fulfilment of the PTA's objectives and to make the PTA respect the role of the operator.<sup>15</sup> For instance, in a gross cost contract incentives will make the operator focus not only on the production costs but also on revenues and quality.

Usually, incentives are of financial nature. However, also the threat of introducing competition might constitute an incentive for the operator to provide better service quality. Positive incentives are agreements where the operator gets a financial benefit for the fulfilment of particular objectives. Negative incentives imply that the operator pays a penalty if certain objectives are not fulfilled. Recent gross cost contracts in the "New Scandinavian model" contain bonus/malus clauses for cancellations, punctuality, staff behaviour, cleanliness, customer information and number of passengers. Some of these are easy to evaluate or to measure, some are influenced by external factors such as the weather and some are more 'soft' and have to be measured through customer surveys or mystery riders (see chapter on monitoring below). The effectiveness of bonus/malus clauses is discussed a lot.<sup>16</sup>

If there was a competitive market for public transport and services that had evolved to a high degree of homogeneity there would not be much need for many detailed incentive clauses in contracts. Now as most public transport assignments may involve more or less unique requirements from public transport authorities these requirements must be spelled out in formal contracts. The relative importance of different demands must often be specified in terms of bonus and malus payments. A further circumstance that calls for such clauses is that it may be very costly to passengers and PTAs to substitute a failing operator for another. Therefore it may in practice be hard to punish a failing operator at short notice by termination of the contract.

A further reason calling for specific incentives is the fact that public procurers are prevented by public procurement legislation from prolonging contracts with operators who perform well. Therefore there is regularly an end-game when a procured contract approaches its termination, when the operator may be tempted to shirk from delivering the agreed quality.

The type of incentive used will vary, depending on the type of contract used and the objectives to be met. For example, if an operator has no revenue risk, incentives need to be implemented in order to achieve sufficient focus on fare collection and customer satisfaction. If an operator instead bears the revenue risk, the risk in itself might give the needed incentive to achieve the same required customer satisfaction. The basic idea behind these contracts is that authorities want to

<sup>13</sup> According to the new EU regulation 1370/2007, Article 4

<sup>14</sup> According to the new EU regulation 1370/2007, Article 4

<sup>15</sup> UITP, Incentive Agreements in Public Bus Transport, 2000

<sup>16</sup> SPUTNIC, state of the art report, 2008

give operators stronger incentives to pay closer attention to passengers' wishes. If this works well such contracts may potentially relieve the PTA of the costly task of investigating and planning for passengers wishes.

In our search for different kinds of particular incentives we have found mainly two groups of incentives:

- Revenue or patronage incentives imply that the operator benefits from increasing patronage or revenue. For instance, the operator gets a certain percentage of the revenue above a certain level.
- Quality incentives imply that the PTA pays the operator a bonus if the level of quality exceeds a certain level. Quality level thereby can refer to overall customer satisfaction (measured through customer satisfaction surveys as practised in Zurich) or to specific quality aspects (e.g. penalties for cancelled services or irregularities as practices in Oslo) or to quality aspects in a wider sense such as environmental aspects (as practices in Gothenburg where operators are paid a certain amount when operating less polluting busses than the contract stipulates).

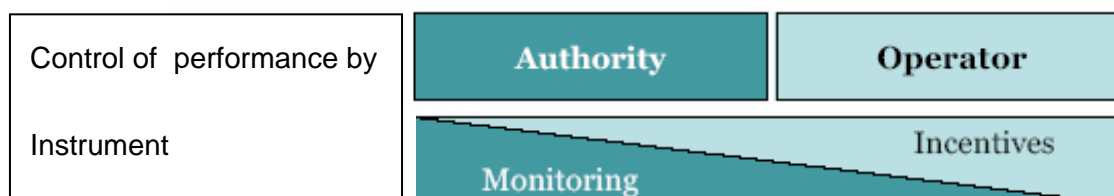
For any incentive to be effective it is of vital importance to establish reliable methods of measuring the fulfilment of the underlying objectives which are mutually accepted.

Incentives can contribute to the achievement of the overall goals of the PT system. However, there may be large costs associated with a correct management of incentives and, as it appears, it may be hard to design incentives so that they really make a difference.

It has to be noted that the real power of contractual incentives might differ from their mere content. This is especially relevant in case of publicly owned companies. In an extreme case, when an authority also influences management decisions of the operator through its position as owner of the company, or when it accepts to take over financial deficits that the public operator occurs (above contractual compensation) or when the authority does not fulfil its contractual duties in terms of financial compensation for services ordered, then the contract text and its incentivising power tend to remain a pure formality.<sup>17</sup>

### Monitoring systems

Independent of the contract model the authorities need to check whether the obligations stated in the contract are fulfilled. Where this check is not done via the use of more or less self-fulfilling contractual features (incentives) this has to be done by a sort of monitoring where certain performance indicators are constantly collected in order to **control the fulfilment of the contract**. Monitoring systems are therefore a practically unavoidable part of contract management. They can be seen as alternative or complement to the incentive instruments incorporated in the contract. In the case of a monitoring system the performances are controlled by the authority whereas by using incentives the performance is controlled by the operator (in its own interests, see figure below). Usually, a combination of both instruments is necessary.



Monitoring and incentives (based on inno-V et al. 2008)

<sup>17</sup> inno-V et al., Contracting in urban public transport, 2008

It is important to secure the credibility of the authority and the effectiveness of the provisions of the contract that the authority is able and willing to identify insufficient performance in case it occurs. Where performance indicators are not met, the authority must be able to impose fines, withhold part of the subsidy, arrange for compensation or deny extension/renewal options.<sup>18</sup>

The importance of monitoring systems and their objective is reflected in the following statements:<sup>19</sup>

- If you do not measure results, you cannot tell success from failure.
- If you cannot see success, you cannot reward it.
- If you cannot reward success, you are probably rewarding failure.
- If you can demonstrate results, you can win public support.

In general, every monitoring system consists of the following steps:

1. Identify objectives and target criteria (e.g. punctuality)
2. Identify indicators to measure the target criteria (e.g. services running late more than 3 minutes)
3. Define target values (e.g. 95% of services punctual) and a threshold of unacceptable performance (if applicable)
4. Define appropriate measurement methods for each indicator (e.g. analysis of fleet management system data)
5. Collect data
6. Analyse data
7. Assess results and apply correction measures

Indicators are necessary to measure the performance. They should – as much as possible - be<sup>20</sup>

- relevant and sensitive (to variation of service provided, not to external effects)
- objectively measurable (with reasonable effort)
- statistically valid
- simple and transparent
- customer oriented (rather % of customers than % of stops)

As indicated in step 5, for any monitoring there is a need to gather data. In case the operator does not fulfil the obligations of the contract it will be necessary to proof where and to what extent the service agreed upon was delivered or not. Authorities can collect information from independent sources. Alternatively, the contract can allocate the responsibility of data collection with the operator. In practice however, the operator might not be prepared to provide information which may show underperformance or even lead to a penalty payment. In any case, the authority needs to be competent enough to interpret the relevant data.<sup>21</sup>

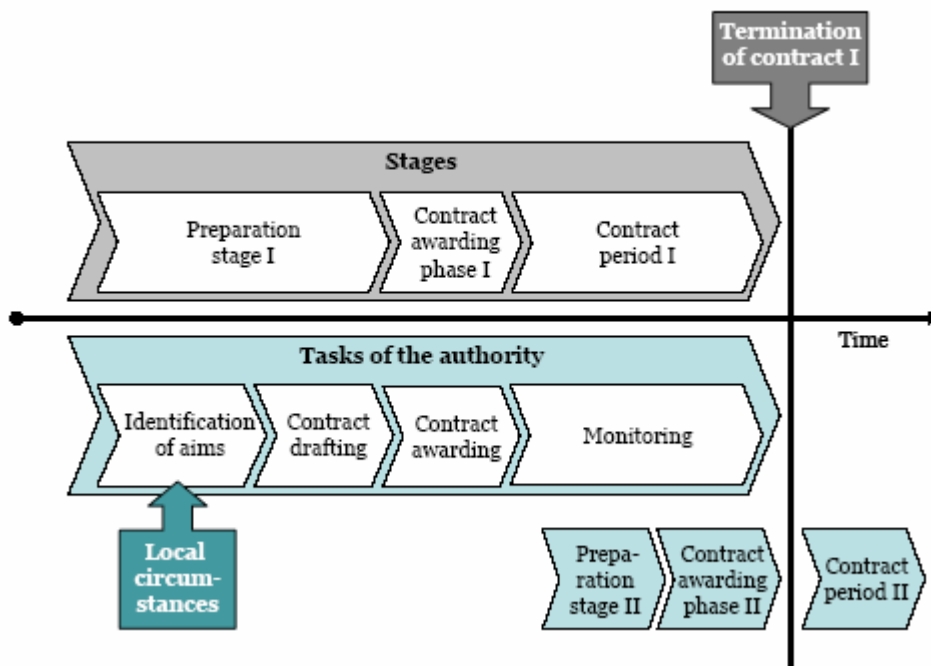
Although the monitoring itself is carried out after the conclusion of the contract (see figure below) the ability to take measurements and the possible measures which can be taken should be already set out in the PSC. The measurements must be transparent and verifiable for both parties. Each performance target needs to be clear and measurable.

<sup>18</sup> inno-V et al, 2008

<sup>19</sup> The World Bank: Ten Steps to a result based monitoring and evaluation system, 2004 (based on Osborne/Gaebler)

<sup>20</sup> UITP: quality management & standards, UITP EMTA Workshop, 27 January 2007

<sup>21</sup> inno-V et al., Contracting in urban public transport, 2008



Time schedule: preparation and awarding of contract and subsequent monitoring [inno-V et al. 2008]

Depending on the purpose of the monitoring, it will monitor economic performance and/or quality performance of the operator. Consequently, a number of economic and/or quality performance indicators have to be measured and monitored.

Possible economic performance indicators might include:<sup>22</sup>

- production cost per scheduled kilometre
- production cost per scheduled operating hour
- revenues per scheduled kilometre
- cost coverage (share of production costs covered by revenues)
- etc.

The measuring of quality performance is usually more complex. On a European level, a general standard for customers of PT is available since 2002. The standard EN 13816 was issued by the CEN and includes a common measurement of quality in PT. It can not only be applied by authorities for the quality management of their PT system or for the quality management of their contracts but is also used by PT operators for their internal quality management (e.g. Prague Public Transport Co.).

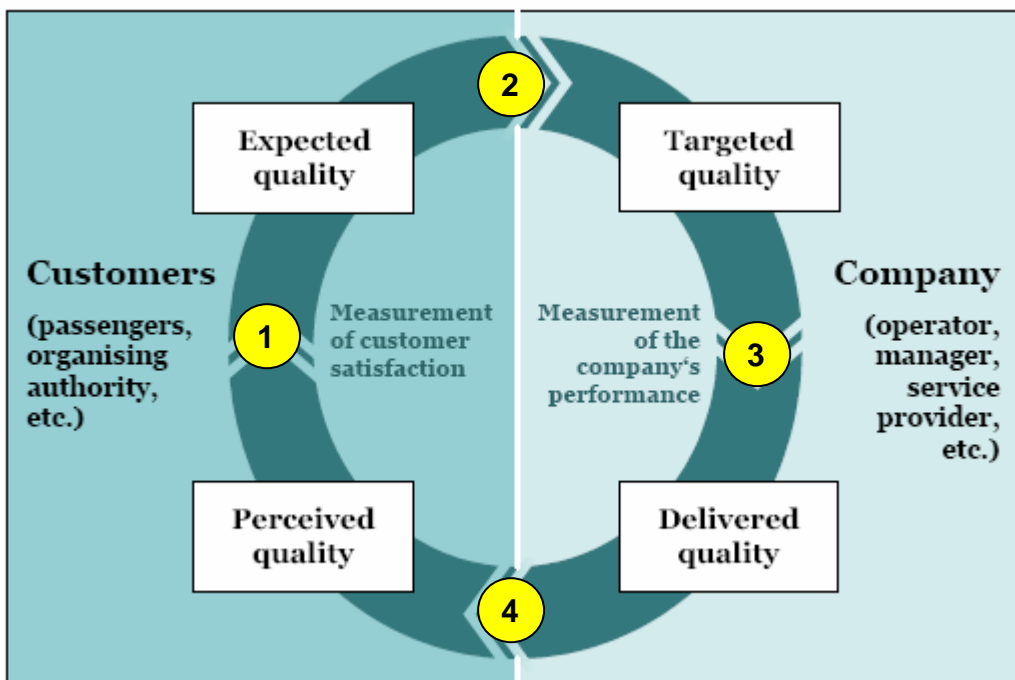
EN 13816 sets standards for the definition of quality and of quality standards in PT and for their measurement. It includes suggestions for appropriate measurements methods. The quality definition of the norm is based on the quality loop which distinguishes four dimensions of service quality (see picture below):

- *Expected quality*: This is the level of quality demanded by the customer (implicit or explicit expectations). Qualitative and quantitative surveys can be used to identify these criteria and their relative importance.
- *Targeted quality*: This is the level of quality that the operator aims to provide. It is dependent on the level of quality expected by the passengers, external and internal pressures, budgetary

<sup>22</sup> examples from the national Benchmarking project of the Swiss Transport Authority

constraints and competitors' performance. The targeted quality is made up of a reference service (e.g. punctuality: less than 3 minutes late), a level of achievement for the reference service (e.g. 95% of service punctual) and a threshold of unacceptable performance.

- *Delivered quality*: This is the level of quality that is achieved on a day-to-day basis. Delivered quality can be measured using statistical and observation methods, e.g. direct performance measures.
- *Perceived quality*: This is the level of quality perceived by passengers in the course of their journeys. How a passenger perceives the reality of the situation depends not only on his personal experience of the service but also on associated services, on the information he receives about the service (not only that provided by the company, but also information coming from other sources), on his personal environment, etc.



Quality loop [Inno-V et al, 2008 after EN 13816]

This quality loop illustrates two worlds with two distinct viewpoints, one the customer, the other the operator. Improving service efficiency and quality means closing the four gaps (see numbers in the picture above):

1. This gap indicates the degree of customer satisfaction and is usually measured using customer satisfaction surveys.
2. This gap indicates the ability of the operator to focus on the customer's needs. A wide gap indicates little customer orientation and indicates that the operator does not focus on those aspects that are really important to the customer.
3. This gap measures the performance of the operator in reaching its targets.
4. Perceived quality can be very different from delivered quality. A wide gap can stem from a bad company image or personal prejudice which makes the customer undervalue the service provided.

EN 13816 defines over 100 quality criteria that constitute the overall quality of PT. They are grouped in the following 8 main categories:

- availability
  - accessibility
  - information
  - time
  - customer care
  - comfort
  - safety/security
  - environmental impact
- } quality of PT offer
- } quality of transport service

Depending on the division of tasks between authority and operator and on the local circumstances, the operator can influence more or less of these criteria. The scope of influence has to be taken into account when setting up a monitoring system. For instance there is no use in blaming the operator for late services when it is impossible to keep the given timetable due to the busses being stuck in rush-hour traffic.

For measuring quality aspects EN 13816 mainly suggests three methods which are often combined:

- direct performance measures which measure the delivered quality
- mystery shopping surveys where independent test customers try to assess the delivered quality in a way an average customer would do it
- customer satisfaction surveys which measure the gap between perceived and expected quality. The results of such surveys can be summarised in a service quality index (SQI)

All three methods have their advantages and disadvantages:

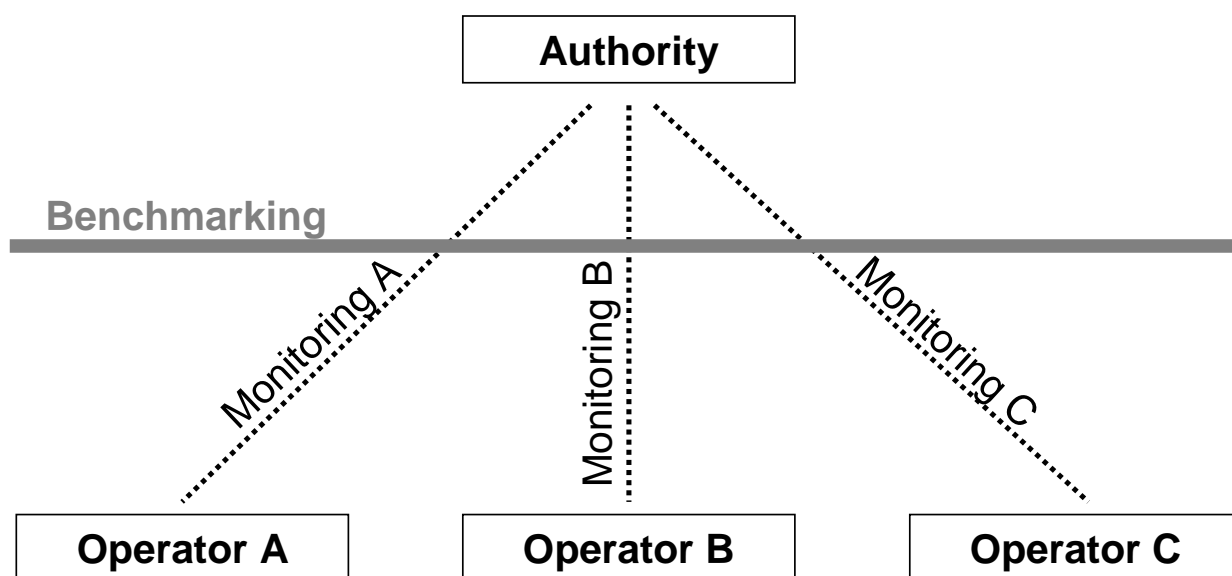
First they do not measure the same dimensions of quality. While direct performance measures measure the delivered quality, customer satisfaction surveys measure the gap between expected and perceived quality. Direct performance measure are therefore only dependent on the operators performance while customer satisfaction surveys also depend on external factors such as the attitude of the customer (which of course can be influenced by the operator, e.g. through image campaigns). EN 13816 therefore states that customer satisfaction surveys are not very suitable as a basis for the authority to set quality targets to the operator. Still this is practiced for example in Switzerland where the Zürcher Verkehrsverbund (transportation association) links its bonus payments to the operators to the results of the triannual customer satisfaction survey – and apparently quite successful.

Second not every method is suitable for every quality criteria. So called “hard criteria” such as punctuality, equipment of vehicles, disruptions etc. can be relatively easily measured using direct performance measures. “Soft criteria” however, such as friendliness of staff, perceived security, cleanliness of vehicles etc. are more likely to be measured through mystery shopping or customer satisfaction survey. As they can be measured more directly and more precisely, hard criteria are often preferred to soft criteria as a basis for setting up quality incentives within contracts. However, it is often the soft criteria that matter more to the customer – and therefore to the success of PT.

With respect to measuring delivered service quality En 13816 is completed by EN 15140 “Public passenger transport - Basic requirements and recommendations for systems that measure delivered service quality”.

By requiring the operator to grant its passengers certain **passenger rights** (e.g. the reimbursement of taxi costs in case of disruptions or delay of more than 30 minutes) the authority can shift part of the monitoring tasks to passengers who get financial or other compensation when the operator does not meet specific quality requirements.

Apart from checking the fulfilment of the PSC the monitoring system can also be used for **benchmarking** purposes. Whereas a monitoring system focuses on the contract, i.e. the relationship between the authority and a single operator, benchmarking refers to comparing the performance of different operators (see picture below). In this way the authority can avoid paying too much for the services commissioned or accepting a quality that is too low even in case of a direct award of the contract. This issue is especially important in the light of the new EU Regulation that bans overcompensation (Art. 4). Art. 6 of the new Regulation even states that Member States, at the written request of the EC, shall communicate all information necessary to determine whether the compensation granted in a PSC is compatible with the regulation. Authorities therefore have to be able to prove that their payment structure avoids overcompensation – which can be shown by means of a benchmark.<sup>23</sup>



Benchmarking figures can also be used as a dialogue instrument between authority and operator thereby establishing a more open and more fruitful partnership. They can as well be used as an instrument to demonstrate results and achievements in order to win public support.

Benchmarking can also be used as a decision basis for reassessing the organisation of local PT services, e.g. with respect to tendering. This approach is used by some PTAs in Switzerland who award contracts directly as long as the corresponding operator performs effectively and efficiently (compared to the benchmark) but who tender out the corresponding network where performance indicators indicate an efficiency or quality below average. As a consequence of the looming threat of direct competition (through tendering) the authorities can establish a stronger position in negotiations with operators.

This benchmarking can also help to establish some sort of (indirect) competition, even when there is actually no direct competition in or for the market.

The implementation of a benchmark is often complicated by the difficulty of comparing different information. Not only might performance data from different operators stem from different sources applying different measurement methods, but also area characteristics (e.g. small city or large conurbation) and types of transport might differ considerably. In a network combined of metro, tram and bus lines the bus services will have an entirely different function than in a pure bus line

<sup>23</sup> UITP, A market in motion, 2005

network. Also, the tasks performed by different operators might vary from city to city (e.g. from the pure provision of transport service to marketing and network planning tasks) resulting in different cost figures.

Despite these figures it is possible to make the key figures for the different types of transport comparable, e.g. by taking certain specific cost-related factors into account such as operating speed, number of passengers carried and spatial characteristics of the transport area. By bringing more key figures into the equation a balanced comparison of the transport performance of different operators can be made.<sup>24</sup>

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<sup>24</sup> UITP, A market in motion, 2005

## References

- **Contracting in urban PT, inno-V/KCW/others, 2008**
- **A market in motion, UITP, 2005**
- **Incentive Agreements in Public Bus Transport, UITP, 2000**
- **EU Regulation 1370/2007**
- **EN 13816:2002**
- Guide to Contracts and Contracting in PT, Colin Buchanan & Partners, 2004
- Umweltfreundlicher, attraktiver und leistungsfähiger ÖPNV – ein Handbuch, Kap. 7 (Vertragsformen) und 8 (Qualitätsmanagement und -standards im ÖPNV), Deutsches Institut für Urbanistik, 2005
- Improving quality and value for money in public transport through tendering, Working Group “Contracts and Quality” of the Citizens' Network Benchmarking Initiative, 2002
- Systematische Qualitätsmessung – Voraussetzungen für die anreizorientierte und justiziable Gestaltung von Verkehrsverträgen, Anreiter/Schaaffkamp, Nahverkehr 11/2006
- Contracts and quality (Bucharest, Athens, Alicante, Merseyside, Stuttgart) within Urban Transport Benchmarking Initiative, Working Group Report, July 2005
- various papers on incentives and experiences in Sweden, Kjell Jansson, 2002-2004 (rather theoretical approach)
- Use of contract and definition of level of quality linked to a system of bonus/malus, Lars Nordstrand, Traffic Director, AB Storstockholms Lokaltrafik, Stockholm, Sweden (UITP World Congress, Helsinki, 2007)
- Benchmarking im schweizerischen ÖV, Hanspeter Pizzato, 2005
- The Stuttgart Region Bonus-Malus-Scheme for PT, ELTIS DB
- Service Quality Programme of Prague PTO, ELTIS DB
- MARETOPE, Deliverables D1 and D7
- VOYAGER, Deliverable 2 and 3

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