

# SIPTRAM

Multistakeholder Dialogue

**Discussion paper on improving environmental standards through competitive tendering of transport services**

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## ***Introduction***

More than 75% of the population of the European Union lives in urban areas. Therefore, urban transport accounts for a significant part of total mobility and an even greater proportion of damage to the health of citizens and to buildings. One-fifth of all EU kilometres travelled are urban trips of under 15 km. Between 1995 and 2030, total kilometres travelled in EU urban areas are expected to increase by 40%.

Cars contribute about 75% of kilometres travelled in EU conurbations. Increased car use has been accompanied by safety, social, health and environmental problems, as well as by a downward spiral of under-investment in public transport.

Urban public transport represents one of the financially most significant and also visible public services provided. However, the authority responsible for providing these services varies from country to country. Increasingly, public transport services are provided by private companies in some countries with service contracts awarded through a competitive tendering process. Competitive tendering refers to the awarding of an exclusive right to operate a route, or a network of routes, to an operator following a competitive process<sup>1</sup>. Along with, or instead of such a right, the Authority may also grant subsidies to the successful operator in compensation for the fulfilment of public service requirements.

## ***Environmental Profile of Urban Transport***

Urban transport is a significant contributor to global warming. About 28% of the GHG emissions in the EU presently come from transport, with 84% coming from road transport alone. More than 10% of all carbon dioxide emissions in the EU come from road traffic in urban areas. The Kyoto protocol calls for an 8% cut in total EU carbon dioxide (CO<sub>2</sub>) by 2008–2012 with respect to 1990 levels, but if current trends continue, CO<sub>2</sub> from transport will be some 40% higher in 2010 than it was in 1990.

Innovative solutions to increase and to “clean” public urban transport are therefore important for achieving the EU targets under the Kyoto Protocol. The future challenge is to make urban transport systems more accessible, including for people with reduced mobility, and at the same time minimise the environmental impacts of transport and safeguard the quality of life.

Apart from this global issue, road traffic in urban areas is also the main source of carbon monoxide and fine particulate matter in European cities and therefore tackling the problem plays an important role in the improvement of urban air quality.

Air quality is one of the areas in which Europe has been most active in recent years. The approach has been to develop an overall strategy through the setting of long-term air quality objectives. In 1996, the Environment Council adopted Framework Directive 96/62/EC on ambient air quality assessment and management. This Directive covers the revision of previously existing legislation and the introduction of new air quality standards for previously unregulated air pollutants, setting the timetable for the development of daughter directives on a range of pollutants.

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<sup>1</sup> Nota bene, purchases by operators in the pursuit of their services are in many cases subject to the public procurement directives, such as 39/38/EEC or 2004/17/EC.

Three daughter directives have been adopted, covering various pollutants and setting specific targets to achieve. The list of atmospheric pollutants covered includes sulphur dioxide, nitrogen dioxide, particulate matter, lead (first daughter directive); ozone (third daughter directive); pollutants governed by already existing ambient air quality objectives; benzene, carbon monoxide, poly-aromatic hydrocarbons, cadmium, arsenic, nickel and mercury (second daughter directive). A fourth daughter directive is currently under preparation by the European Commission, it will cover the remaining pollutants listed in the Annexes of the Framework Directive.

Pollutants covered by the first daughter directive are mainly caused by vehicle emissions. Clean public urban transport is therefore highly relevant for the successful implementation of the directives. There is great pressure for local action, as stronger limits for particulate matter will come into force in 2005. Many cities will have difficulties in reaching these limits. Particularly diesel vehicles without particulate filter nowadays contribute significant shares to this environmental problem, with diesel buses being part of the problem. By targeting low-emission vehicles, public transport can become part of the solution and not part of the problem.

In 1992, to reduce direct vehicle emissions the EU introduced the so-called EURO standards, which currently regulate the legal emission levels of both new cars and heavy-duty vehicles (including urban buses). These are applied progressively, becoming stricter over time. Currently, following Directive 1999/96/EC<sup>2</sup>, the EURO III standards are in force for all new vehicles, with EURO IV to be introduced in 2005, and (only for heavy-duty vehicles) EURO V in 2008. These regulations also contain the EEV standard (Enhanced Environmentally Friendly Vehicles) with even stricter limits than EURO V for heavy-duty vehicles.

### ***Competitive tendering of public transport services***

The present situation in urban public transport seems somewhat paradoxical: while the general context (road traffic congestion, raising environmental concerns, general demand for better living conditions, etc.) seems favourable to a development of public transport, the evolution of their modal split share does not reflect this.

It appears that quality is one of the key dimensions in the provision of urban public transport that should receive more attention from authorities and operators in the future. Public transport is a service which European citizens may decide to use or not. Successful service industries worldwide now focus on customers through continuous improvement programmes and customer satisfaction surveys. Urban public transport should do the same.

Due to the liberalisation process for public infrastructure, which is currently taking place at the European level, urban public transport might be subjected to competitive tendering<sup>3</sup>. Furthermore, the European Court of Justice indicated in its recent *Altmark* decision<sup>4</sup> that competitive tendering

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<sup>2</sup> Directive 1999/96/EC of the European Parliament and of the Council, of 13th Dec 1999 on the approximation of the laws of the Member States relating to measures to be taken against the emission of gaseous and particulate pollutants from compression ignition engines for use in vehicles, and the emission of gaseous pollutants from positive ignition engines fuelled with national gas or liquefied petroleum gas for use in vehicles and amending Council Directive 88/77/EEC

<sup>3</sup> See directives 2004/17/EC, 93/38/EEC, 2004/18/EC and 92/50/EEC, under which competitive tendering according to the detailed provisions of these directives is a main rule for contracts concerning land transport other than rail, unless it takes the form of a service concession contract. A service concession contract is defined as a contract of the same type as a public service contract except for the fact that the consideration for the provision of services consists either solely in the right to exploit the service or in this right together with payment

<sup>4</sup> Judgement of the Court of Justice in Case C-280/00

would be an appropriate way to deal with the issue of public subsidies in urban transport. This opening may be taken as a chance to improve quality, and thereby environmental and social standards in urban transport. By introducing quality indicators into tendering and contracting procedures, the effectiveness of urban public transport through the delivery of higher quality operations is likely to increase. Figures reported by the European Commission and others show that where competitive tendering has been used the annual passenger increase was higher than where it was not used.<sup>5</sup>

This paper aims to investigate the technically possible and economically most favourable ways of improving the environmental performance of public urban transport through the competitive tendering process. Competitive tendering is presented here as one way to award public transport services. In its recent judgement in the "Altmark Trans" case, the European Court of Justice recognised that relevant territorial authorities may entrust transport undertakings with discharging public transport services without a tendering procedure if the four particular criteria<sup>6</sup> laid down by the Court are fulfilled. We are aware that there are other ways to increase environmental and social standards and that (without prejudice to the legal obligations for competitive tendering) not in all cities and/or countries framework conditions are favourable to competitive tendering. In some cases, another approach may be more appropriate. However, where competitive tendering is used, specific criteria have to be set in order to ensure high environmental and social criteria.

The objective of the document is to provide recommendations only, which will have to be adopted in the light of specific local circumstances. Furthermore, a difference will have to be made between small and big providers, since a lot of smaller companies do not even have the chance to implement all the proposed measures. The following suggestions were developed from research undertaken in the framework of the SIPTRAM project (drawing also on the development of purchasing criteria under the RELIEF project), and discussed with various stakeholders in the transport field during a roundtable event.

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<sup>5</sup> COM (2002) 107 (amended proposal for regulation). For more recent figures see also: Colin Buchanan and Partners, Study of Good practice in Contracts for Public Passenger Contracts, Final Report,

<sup>6</sup> These are: **First**, the recipient undertaking *must actually have public service obligations to discharge* and those obligations must be *clearly defined*. **Second**, the parameters on the basis of which the compensation is calculated must be *established in advance* in an *objective and transparent* manner. **Third**, the compensation *cannot exceed what is necessary to cover all or part of the costs* incurred in the discharge of the public service obligations, taking into account *the relevant receipts* and *a reasonable profit*. **Fourth**, where the undertaking is not chosen in a public procurement procedure, the level of compensation must be determined by a comparison with an analysis of the costs which a typical transport undertaking would incur (taking into account the receipts and a reasonable profit from discharging the obligations).

## 1 Good quality service

It is widely recognised that public transport is a far more environmentally benign form of mobility than using private cars. When looking to reduce the environmental impact of urban transportation, the most important aspect to consider is therefore the ratio of public transport to private car use – the higher the better.

If public transport wants to be more attractive than the private car, potential customers need to be convinced by a reliable, good quality service. Therefore, the actual image of public transport needs to be improved. The suggestions below aim to take advantage of the opportunities offered by the tendering of services to ensure a good quality service is provided and the attractiveness of public transport is improved.

The tender documents must include details about the expected quality standards of the service (e.g. minimum frequency of service, passenger information, safety and security standards) as well as a precise description of the procedure to control compliance with these standards during the execution of the contract (see contract provisions). In order to ensure that even unprofitable lines are served in a satisfactory frequency, the price may be linked to vehicle km. A minimum service should be defined for all lines. It has to be clear in the tender documents how the services will be valued, i.e. how much importance is given to the different aspects during the award phase. Last but not least, the criteria for the evaluation of quality standards in relation to the price during the award phase must be laid down clearly.

The contract should include the provision that X%\* of the operating revenue awarded if the operator achieves a „good quality service“, as evaluated by an independent market research company\*\* at the supplier's expense every year.

\* To be determined by the public authority in negotiation<sup>7</sup> with the selected service provider

\*\*The supplier must provide details of an appropriate company in the tender application

The exact details of the contract provisions will not be finalised until the negotiation<sup>8</sup> of the contract following the selection of the service provider, but they should include the scheme outlined above. As stated earlier, it must be made clear in the original tender that such a scheme will form part of the final contract.

Assessment should be carried out every year after commencement of service. Specific targets and goals must be set and agreed upon during contract negotiations<sup>9</sup>. It is suggested that the following five indicators should be used in judging the quality of service:

- Passenger numbers (only where the operator has a fair chance to influence these)
- Passenger satisfaction (assessed through a survey)
- Improved safety and security where under control of the service provider

<sup>7</sup> General remark: it should be noted that negotiations are not always permissible under the applicable public procurement legislation. Where this is the case such provisions should either be stipulated by the public authorities in the tender documents or it could be left to the tenderers to bid on these issues, provided the contracting authorities has set award criteria to accommodate these.

<sup>8</sup> Negotiations are not always permissible under the applicable public procurement legislation

<sup>9</sup> See footnote 7

- Improved facilities such as shelter and lighting
- Passenger information (next departures, delays etc)

Passenger numbers should be of most importance, although it has to be considered that local policies and other framework conditions have a big influence on the passenger development. In order to give the operator a fair chance to achieve an increase in passenger numbers, framework conditions that affect this development in a negative way have to be avoided (see also chapter on local policies). Operators must be included in the decision making process of all policies affecting public transport directly or indirectly. They have the necessary know how and are able to judge effects of policies and measures on public transport services, and should therefore be consulted.

The exact method for carrying out the assessment and analysing the results should be the task of the independent market research company contracted by the service provider, and accepted by the local authority in the course of the award procedure. The above mentioned indicators may be adapted to local circumstances.

## 2 Environmentally-conscious driving

On recent years engine-technology of both cars and lorries has changed drastically, while the driving style of most drivers has not moved with the times. Driving in a slightly different way, which complements the new engines, will give benefits in cost savings, safety, environment and comfort. Appropriate training is necessary to ensure the full potential efficiency gains are realised. Training should also include customer care, technical competence, and defensive driving. This driving style cannot be taught in theory - it must be taught in practice. With the right training in driving style, drivers can save an average of 5-10% on fuel. Some drivers have reached savings of over 20%.<sup>10</sup>

The specifications on the tender should include the following:

- It must be proven that all bus drivers are being trained in a recognised institution on environmentally conscious driving on a regular basis to increase fuel efficiency. General awareness raising for environmental concerns should be part of the training.

The contract should include the provision that if the standards claimed in the tendering competition have not been met satisfactorily over the first 2 years of the contracting period then a penalty of ....\* will be applied.

\* To be determined in negotiation<sup>11</sup> with the selected service provider

Currently there is no Europe-wide system of accreditation for energy efficient driver training. However, most countries or regions have some form of recognised course. The procurer will need to determine what is appropriate to demand. The EU Directive on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers (Directive 2003/59/EC) introduces an obligation to hold an initial qualification and to undergo

<sup>10</sup> see: OECD/ECMT/IEA Workshop, 24/2/99, Paris “Improving Fuel Efficiency in Road Freight: the Role of Information Technologies”

<sup>11</sup> see footnote 7

periodic training for professional drivers. This is intended to improve road safety and the safety of the driver, including during operations carried out by the driver while the vehicle is stopped.

As the effectiveness of such training is to a large extent determined by how regularly it is carried out, it will be important to include a mechanism in the contract provisions for checking compliance, and an appropriate penalty for non-compliance. The exact details of this will not be finalised until the negotiation<sup>12</sup> of contract provisions following the selection of the service provider, but the contract should include the scheme outlined above. It must be made clear in the original tender that such a scheme will form part of the final contract.

Driving style meters to monitor fuel usage can add to fuel savings, since the drivers can permanently control their driving style. Since these meters are rather difficult to retrofit, it should be made sure that at least all newly purchased vehicles are equipped with a driving style meter.

Another possible solution to decrease fuel consumption is to set incentives in form of a bonus for low values of NOx and particulates (as proposed under renewal of fleet), that can partially be achieved through Eco-driving.

### 3 Renewal of the fleet

It is unrealistic to think that operators will have a high number of vehicles complying with high environmental standards such as the EEV standard at this stage. Neither can be expected that the entire fleet will be renewed. However, a partial renewal of the fleet should be aimed for. To encourage this, one possible solution would be to give points in the award phase to vehicles complying with the emissions limits of the EEV standard. Furthermore, if this approach is used, to ensure that these buses in the fleet are genuinely used the contract provision below is designed to enable the contracting authority to keep track of this and encourage an ever increasing use of such buses.

The contract should include the provision that the share of EEV driven km per year must increase by ...% per year\*\*. Proof of compliance must be documented and provided to the contracting authority. If compliance is not achieved a penalty of ....\*\* will be applied.

\*\* To be determined during contract negotiations<sup>13</sup>

However, EEV vehicles are not easily available everywhere. There are different ways of reaching a reduction in emissions and in order to leave the most possible flexibility to operators, a different approach might be more advantageous. Thus, another possible solution is to include limit values for Particulate Matters (PM) and Nitrogen Oxide (NOx) for the entire fleet as an average value in the contract, that become stricter over the time.

Whereas the first solution is easier to integrate into the tender and contract provisions, and also easier to control, it would bear the risk of increasing artificially the number of vehicles that have to be phased out, and takes flexibility away. The second solution leaves more flexibility to the operator to comply with the required values. Control of compliance might be slightly more complicated. However, the operator can be asked to provide information on the type and the age of buses, as well as on the km driven. On this basis, a calculation can be done and compliance

<sup>12</sup> See footnote 7

<sup>13</sup> See footnote 7

checked. In many cases, this approach might be preferred, since experience show that imposing a certain technology is not the best way to achieve the wanted result.

## 4 Integrated local policies for sustainable urban transport

Besides incorporating high environmental and quality standards into tender documents and contracts with transport companies, it is extremely important to adopt local policies for sustainable urban transport. These policies could serve as guidance when designing tender documents for public transport services, and should set objectives for urban transport. Objectives for sustainable urban transport should not be considered as ends in themselves but as important elements of a larger vision, as a contributing part of a package for sustainability in cities.

The best way to achieve sustainable urban transport is the clear promotion of environmentally friendly transport modes. The improvement of modal split of public transport, cycling and walking should therefore be the overall aim of local policies.

As already mentioned earlier, the number of passengers in urban public transport is to a large extent influenced by local policies. Favourable framework conditions for public transport such as separate bus lines and the management of traffic lights to ease bus and tram journeys increases the attractiveness of public transport and therefore passenger numbers. Currently, operators have no or very limited influence on these conditions and local authorities have the duty to support efforts by the operator with favourable policies. There are a number of other policies not directly linked to public transport that influence the use of public transport systems, like pricing for roads and parking, park and ride schemes, and general infrastructure for motorised private transport. High investments for new services in urban public transport do not produce the wanted effect, if at the same time more parking spaces or better infrastructure for cars are created. Operators of urban public transport services should be involved in all important decisions having an impact on the public transport system.

The European Commission in its thematic strategy on the urban environment<sup>14</sup> is calling for sustainable urban transport plans adopted by each city of over 100.000 inhabitants. These plans would seek to reduce the negative impacts of transport, tackle the rising volumes of traffic and congestion and change the modal split in favour of more efficient transport modes. It is foreseen that the plans are to be decided at the local level, taking into account local circumstances.

Integrated measures on parking, pedestrianisation, motorised traffic restrictions or pricing in city centres with transport and land-use policies for the whole urban area in order to minimise adverse effects should be adopted (“carrots and sticks”). The city of Oxford in England has managed to create a real market for urban public transport, by restricting the use of cars in the inner city. Park and ride services were installed, only limited parking space is available, and some areas are completely closed for car traffic. This resulted in a 63% reduction in traffic and a 50% increase in bus use in the central area, accompanied by a 75% reduction in carbon monoxide and a 20% reduction in particulate matters. Significantly bus services in Oxford are deregulated and the improvements have been achieved through a quality partnership between the operator and the authorities.

A strategy should be developed setting clear signals for priorities in public transport, including concrete objectives to achieve. This should be based on a long-term vision for integrated

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<sup>14</sup> COM (2004) 60 final, Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, Towards a thematic strategy on the urban environment

sustainable urban transport, consistent with other policies concerning related fields. Emphasis should be put on public transport access to all large land-use developments.

Car dependency in cities can be reduced only by the combined effect of land-use and transport policies. There is thus a need for better integration between transport, environment and land-use planning policies, which in turn requires more effective urban planning.

Car use plus parking should not be cheaper than using public transit anywhere in the city. Counterproductive practices setting incentives to use the private car have to be reduced, particularly private car subsidies, without however resulting in increased congestion. Support that is currently provided for commuters and road infrastructure has to be shifted towards urban public transport. Parking fees, congestion charges and similar must reflect real costs.

Evidence from real life implementation of urban transport pricing is scarce. There are however a number of experiences that give some indication on the relation between road pricing and car use. First experiences made with the congestion charge in the city of London showed a dramatic reduction in inner city traffic on the first day of the charge. An extra 300 buses (out of a total of around 20,000) were introduced on the same day. Operators reported that buses and tubes were little, if at all, busier than normal.

A report published by the Transport for London surveying the first 12 months of the charge<sup>15</sup> stated that congestion within the charging zone has reduced by 30%. Consequently, the proportion of time that drivers spend stationary or moving slowly in queues in the charging zone has reduced by up to one-third. Traffic entering the zone during charging hours has reduced by 18%; and traffic circulating within the zone has reduced by 15%. The large scale improvements to the bus network have seen a 38% increase in patronage and a 23% increase in service provision compared with 2002. By reducing the overall volumes of traffic within the charging zone, and increasing the efficiency with which it circulates, congestion charging has been directly responsible for reductions of approximately 12 % in emissions of both oxides of nitrogen (NOx) and fine particles (PM 10 ) from road traffic (based on 24-hour annual average day). Traffic changes resulting from charging are estimated to have led to savings of 19% in traffic-related emissions of CO<sub>2</sub> and 20% in fuel consumed by road transport within the charging zone (based on a 24-hour annual average day). There is also some evidence of an accelerated decline in accidents inside the charging zone.

In qualitative terms, simulations have confirmed that urban road pricing does have a meaningful potential in reducing traffic (and therefore congestion and the environmental nuisances associated to urban mobility), and, possibly, in modifying the users pattern of behaviour (trip choice, modal choice, etc.).

Furthermore, local authorities should aim at reducing, or at least refraining from increasing, the road and parking capacity. This however by taking an integrated view, thus avoiding to increase congestion whilst only moderating traffic growth slightly. Integrated parking strategies in urban centres should be adopted, with no free or unregulated parking in urban centres, reduced supply of parking areas when public transit is provided, and a minimum of on-street parking to avoid generating traffic in search of parking places. Individually and privately managed parking facilities in urban centres must be run on a cost-covering basis.

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<sup>15</sup> Transport for London: Congestion Charging Central London, Impacts monitoring, Second Annual Report, April 2004