

ICLEI European Secretariat

**Sustainability in Urban
Public Transport**
Report on the findings of the European
Survey 2004
May 2005



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1. Introduction and objectives

More than 75% of the population of the European Union (EU) live in urban areas, therefore, urban transport accounts for a significant share of total mobility. One-fifth of all person kilometres travelled within the EU are urban trips of under 15km. Between 1995 and 2030, total kilometres travelled in EU urban areas are expected to increase by 40%. Urban areas suffer heavily from congestion and nuisances caused by the excessive use of the private car. Pollution, noise and accidents are particularly acute in large urban environments and affect the lives of thousands of people.

Urban transport is a significant contributor to climate change. Some 28% of greenhouse gas emissions in the EU presently come from transport, with 84% of that coming from road transport alone. The Kyoto Protocol calls for an 8% cut in total EU CO₂ emissions by 2008-2012 based on 1990 levels, but if current trends continue CO₂ from transport will be some 40% higher in 2010 than it was in 1990. Innovative solutions to *clean* urban public transport are therefore fundamental for achieving the EU targets set under the Kyoto Protocol and improving air quality.

In most European Countries, local authorities have traditionally provided urban public transport, either directly or through associated companies. This corresponds to the insight that public transport is a social service provided by public authorities to ensure a certain level of mobility for everybody. Urban public transport, however, has moved from being a profitable industry with a high modal share, to a loss-making one with, in most cases, a minority modal share. Leaving public transport entirely to the market would lead to a situation where some profitable transport routes would be served, leaving less profitable times and destinations not to be served at all. In order to avoid this shortcoming and to profit from the efficiency advantages of competition at the same time, the provision of a public transport can be made subject to competitive tendering.

The SIPTRAM Project

This survey is one of the key initiatives of the EU funded project on ‘Sustainability in the Urban Public Transport Market’ (SIPTRAM) which is being carried out by ICLEI, the Verkehrsclub Deutschland (VCD) and the European Federation for Transport and Environment (T&E). The project aims to encourage cities across Europe to improve the environmental and social performance of urban transport by increasing the volume and standards of public transport services through the competitive tendering process. More information on the project can be obtained from www.increase-public-transport.net.

European Survey on Sustainability in Urban Public Transport

The European survey on Sustainability in Urban Public Transport was carried out with the aim of providing European legislative bodies, decision-makers and transport experts in local authorities and transport companies with an improved understanding of environmental performance and quality standards in urban public transport. This information is also intended to assist practitioners in cities and regions to see what others have achieved, to compare your own city or region with others and to find examples of good practice. The survey takes into account the work undertaken by the European Commission Directorate General Environment and Directorate General Energy and Transport, including the Citizens Network Benchmarking Initiative. The results from this survey are subjective and a number of the figures provided are estimates. All the information submitted was provided on a voluntary basis by the respondents.

A short questionnaire was developed by the project team to primarily gather information from transport authorities on vehicle fleet environmental standards, quality standards, social issues and public transport subsidies. The questionnaire was sent via postal and electronic mail in October 2004.

The sample group consisted of approximately 2.000 European contacts from public authorities and transport companies working in the field of public urban transport from 30 different countries. The contacts were purchased by ICLEI from the European Local Government database “*elgo*” (HS Financial Publishing Ltd). There was a response rate of approximately 9% and a total of 182 responses.

The main findings of the survey are reported in the two sections that follow: section 2 presents the findings from information gathered on the organisations that responded, such as organisation type and the kind of public transport system used. Section 3 presents the findings and correlations obtained on the environmental and quality standards applied by the responding organisations. Finally, an excel table listing the responses provided by each respondent allowing for a more detailed analysis and comparison also forms part of this report.

The publication of these results does not imply that the European Commission endorses the practices of the Member States surveyed or the responses received from the latter, nor accepts or condones them from a legal point of view.

1.1 What is Competitive Tendering?

According to the terminology used in the transport sector competitive tendering refers to the awarding of an exclusive right to operate a route, or a network of routes, to an operator (or possibly a consortium) following a competitive process. Along with, or instead of an exclusive right, the Authority may also grant subsidises to the successful operator in compensation for the fulfilment of public service requirements.

Authority refers to public or publicly-owned organisation with a legal responsibility to plan or regulate public transport services in a specific geographical area. *Operator* refers to any organisation with a contract from an *authority*, usually for a fixed term, to provide or organise public transport services.

2. General respondent characteristics

2.1 Type of organisations

Table 1 – Breakdown of responses received per country

	City / Municipality	Region / Province / County /	Public authority	Transport company	Other	Total Number of responses
Austria	4	0	2	2	0	4
Belgium	0	1	0	1	0	1
Croatia	1	1	1	1	0	2
Denmark	3	0	3	0	0	3
Estonia	1	2	3	0	0	3
Finland	2	0	2	0	1	3
France	12	22	31	3	0	34
Germany	31	7	25	12	1	38
Greece	1	0	0	1	0	1
Hungary	3	0	3	0	0	3
Ireland	0	2	2	0	0	2
Italy	8	5	11	4	0	15
Latvia	3	1	4	0	0	4
Netherlands	2	1	2	1	0	3
Poland	4	0	4	0	0	4
Portugal	2	0	1	1	0	2
Romania	2	0	2	0	0	2
Russia	1	0	1	0	0	1
Slovakia	2	0	2	0	0	2
Slovenia	2	0	2	0	0	2
Spain	5	6	7	4	0	11
Sweden	3	5	6	1	1	8
Switzerland	5	5	1	9	0	10
UK	7	17	23	1	0	24
TOTAL	104	75	138	41	3	182

Figure 1 – Breakdown of responses according to different government levels, i.e. city/municipality and region/province/county.

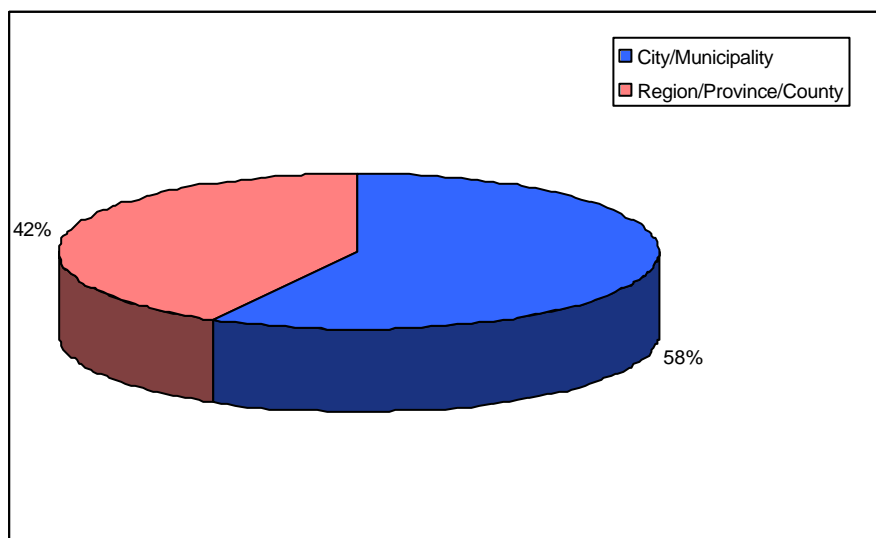
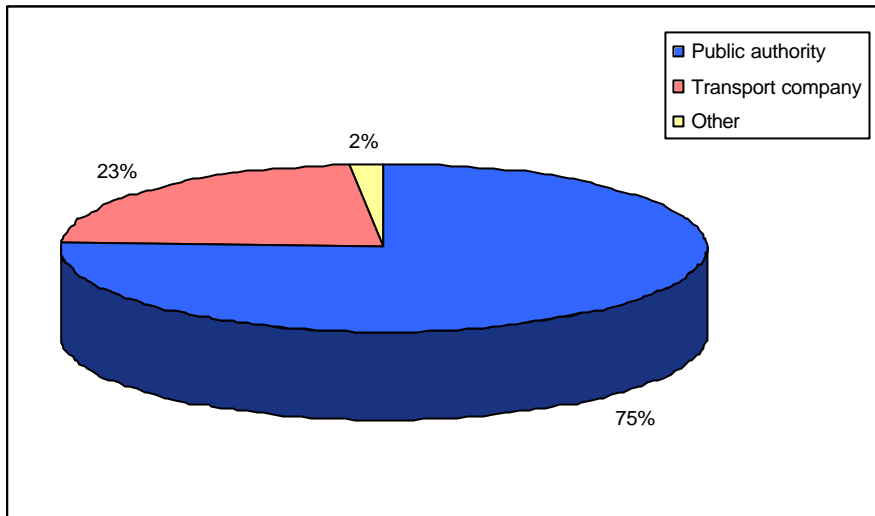


Figure 2 – Breakdown of responses according to organisation type, i.e. public authority, transport company or other.



The first part of the survey concerned the respondents themselves and the organisation for which they work. A range of responses were received from 24 countries, with the majority coming from Germany (21%), France (19%) and the United Kingdom (13%).

2.2 Surface area covered by the organisation (city or region)

Table 2 – Breakdown of responses per country according to surface area of city or region.

	<100km ²	100-1000km ²	>1000km ²
Austria	2	2	0
Belgium	0	1	1
Croatia	1	0	1
Denmark	0	2	1
Estonia	0	1	2
Finland	0	2	0
France	4	17	9
Germany	4	25	9
Greece	1	0	0
Hungary	0	3	0
Ireland	0	1	1
Italy	2	4	8
Latvia	1	2	1
Netherlands	0	2	1
Poland	1	3	0
Portugal	0	2	0
Romania	0	2	0
Russia	0	1	0
Slovak Republic	1	1	0
Slovenia	0	2	0
Spain	3	5	3
Sweden	0	2	4
Switzerland	5	2	2
UK	5	7	8
TOTAL	30	89	51

Figure 3 – Breakdown of responses according to the surface area of the city or region.

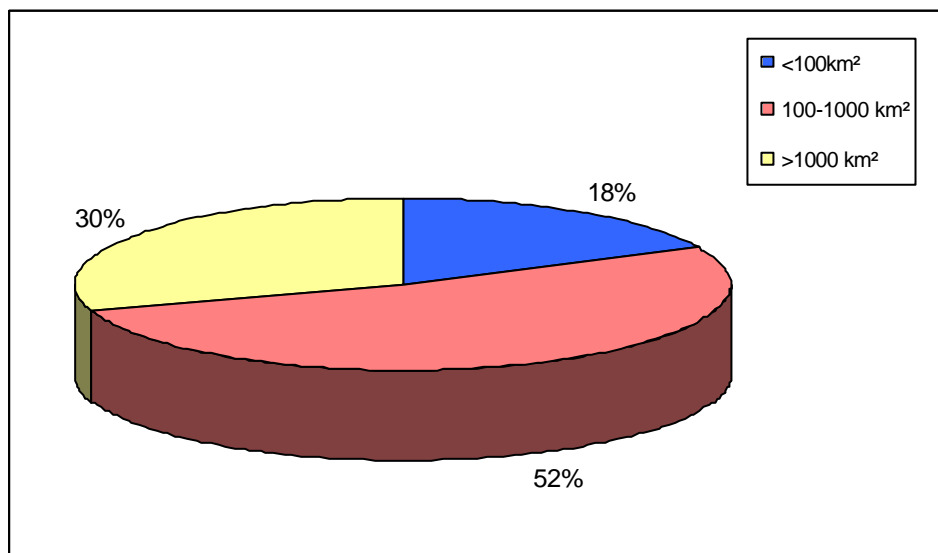
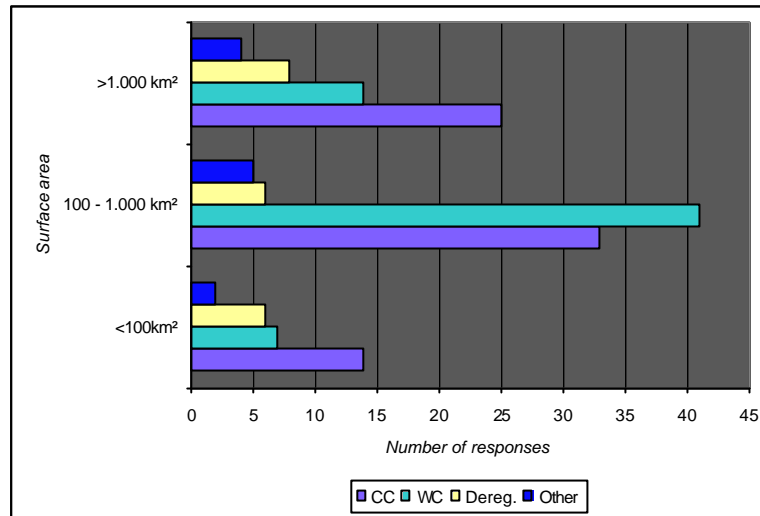


Figure 4 – Surface area (in km²) of the cities and regions based on the operating system used, i.e. controlled competition (CC), without competition (WC), deregulated competition (Dereg.) or other



Question one of the survey asked respondents to provide the surface area (in km²) of the city or region pertaining to their organisation. Table 2 presents the breakdown of responses received per country and figure 3 shows that the majority of responses (52%) received were from organisations covering a surface area of between 100 to 1.000 km².

2.3 Number of inhabitants of the city or region

Table 3 – Breakdown of responses per country according to the number of inhabitants of the city or region.

	<100.000 inhabitants	100.000-500.000 inhabitants	>500.000-1.000.000 inhabitants	>1000.000 inhabitants
Austria	1	3	0	0
Belgium	0	1	1	0
Croatia	0	1	1	0
Denmark	0	2	0	1
Estonia	1	1	1	0
Finland	0	1	1	0
France	8	19	5	1
Germany	6	20	5	7
Greece	0	1	0	0
Hungary	0	2	0	1
Ireland	0	2	0	0
Italy	0	10	1	3
Latvia	3	1	0	0
Netherlands	0	0	3	0
Poland	1	2	1	0
Portugal	0	2	0	0
Romania	0	1	0	1
Russia	0	1	0	0
Slovak Republic	1	1	0	0
Slovenia	0	2	0	0
Spain	1	6	2	3
Sweden	0	6	0	2
Switzerland	5	5	0	0

	<100.000 inhabitants	100.000-500.000 inhabitants	>500.000-1.000.000 inhabitants	>1000.000 inhabitants
UK	3	11	3	7
TOTAL	30	101	24	26

Figure 5 – Total split according to the population of the city or region.

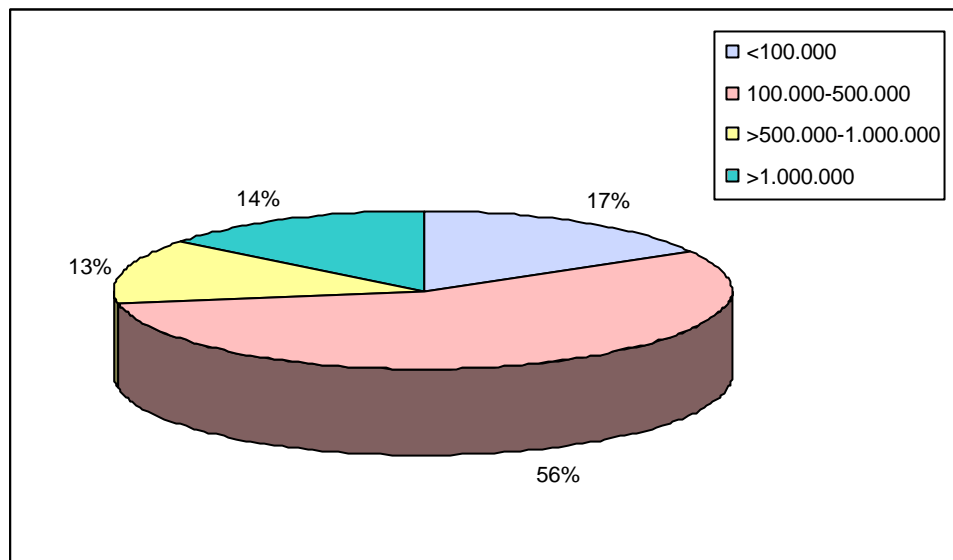
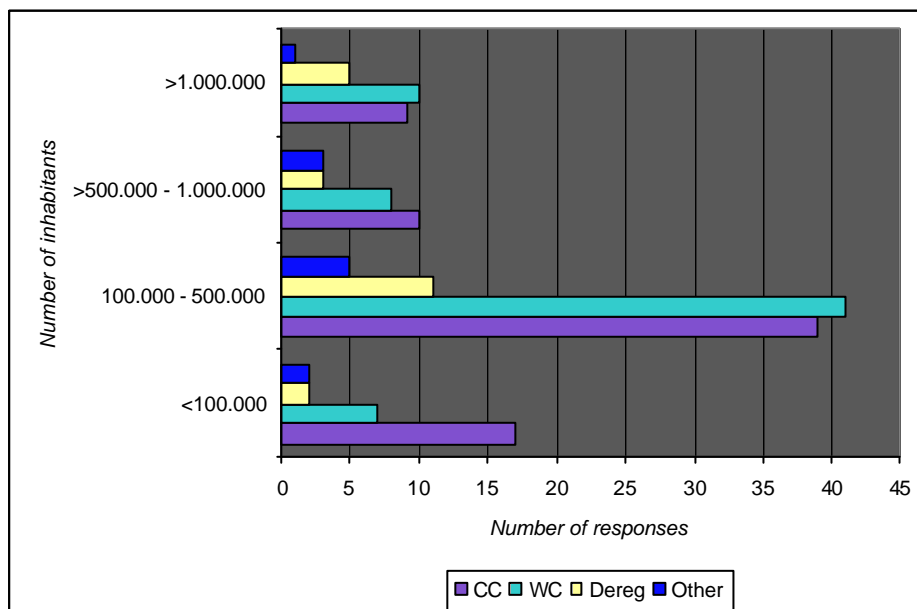


Figure 6 – Number of inhabitants of the cities and regions based on the operating system used.



Respondents provided the number of inhabitants of the city or region which their organisation covers in question two of the survey. Table 3 provides the number of responses received per country split into four different clusters. Figure 5 shows that responses primarily (56%) came from public transport authorities covering small to medium sized (100.000-500.000 km²) cities or regions. Figure 6 shows that there is a near to even split of respondents using controlled competition and no competition amongst the small and medium sized cities and regions.

2.4 System used to operate public transport system

Figure 7 – Breakdown of responses received per country based on the operating system used, i.e. using controlled competition (CC), without competition (WC), deregulated competition (Dereg.) or another form of operation (Other).

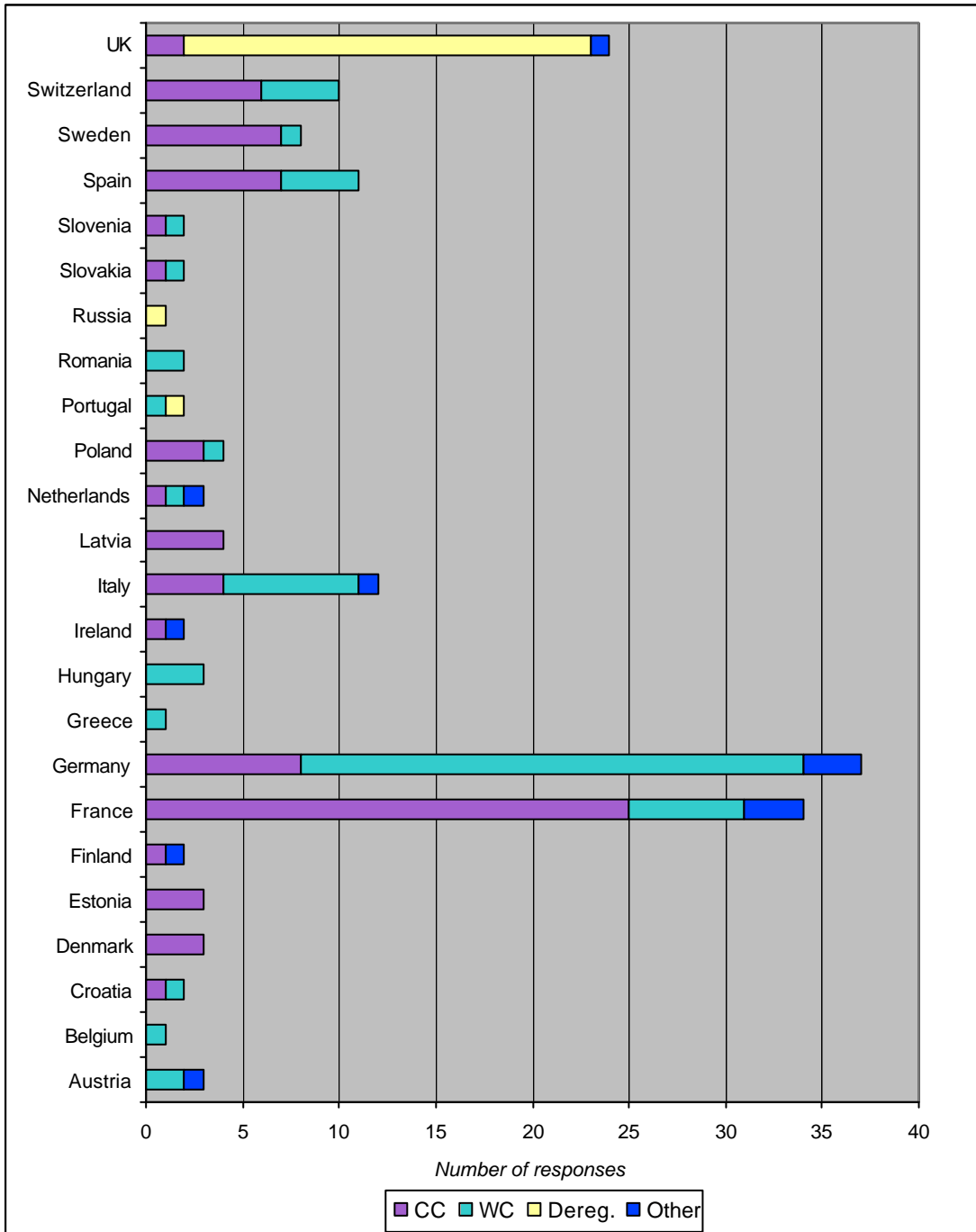
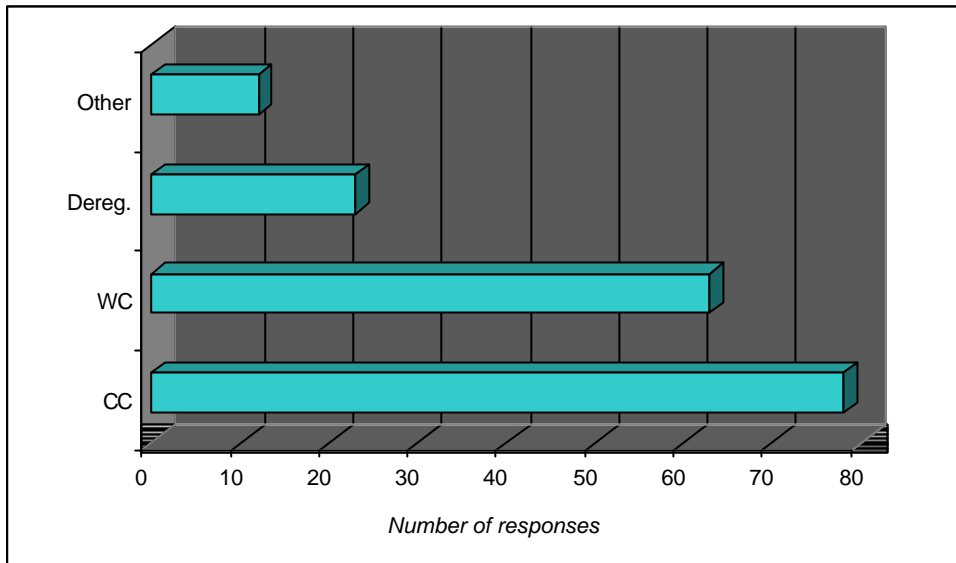


Figure 8 – Overall split of the operating systems used, i.e. controlled competition (CC), without competition (WC), deregulated competition (Dereg.) and another type of system (Other).



Respondents were asked to select the type of system (or indicate which one is the most dominant) they use to operate their public transport service – the survey provided four different options: controlled competition (CC), without competition (WC), deregulated competition (Dereg.) or other. The findings per country are presented in figure 7 with respondents from France, Germany and the United Kingdom (UK) – the countries with the highest number of responses received - predominantly using controlled competition, without competition and deregulated competition, respectively.

3. Environmental performance and quality standards of European public transport systems

Several questions addressing environmental, social and economic issues were also included in the survey. This section presents the main findings of these questions primarily comparing responses received according to the three different types of operating systems.

3.1 Application of obligatory quality criteria to public transport services

Question asked: Do you apply any obligatory quality criteria (for example, punctuality, cleanliness, passenger satisfaction surveys etc) to public transport services? *Obligatory means that in case of non-compliance the transport company is penalised.*

Figure 9 – Breakdown of responses received on the application of obligatory quality criteria for public transport services based on the operating system used.

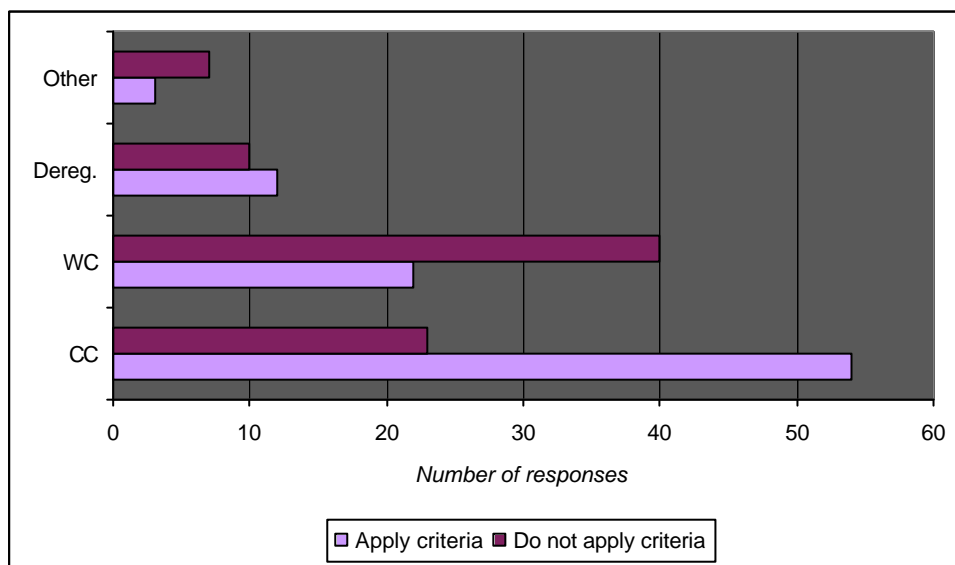


Figure 10 – Breakdown of the most commonly used quality criteria from all the responses given.

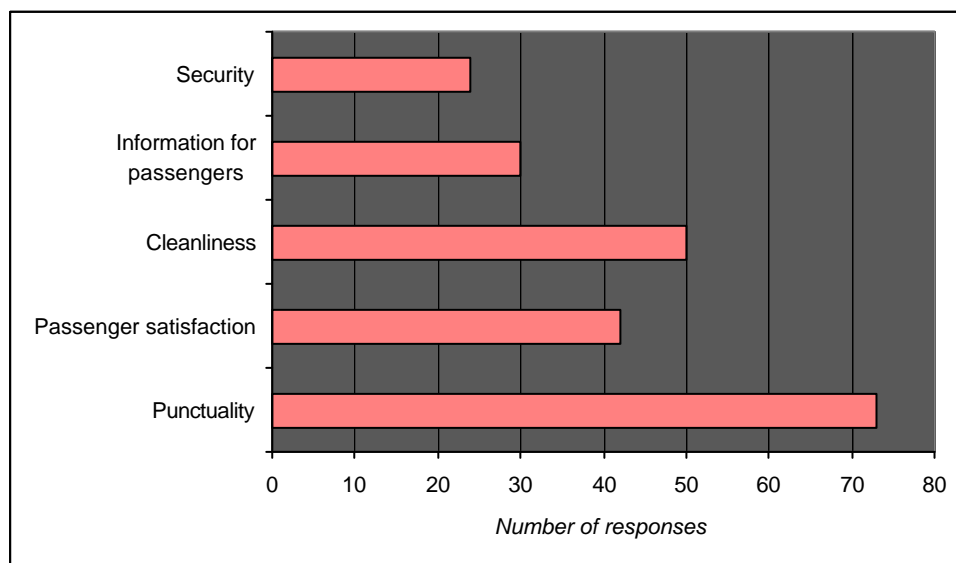


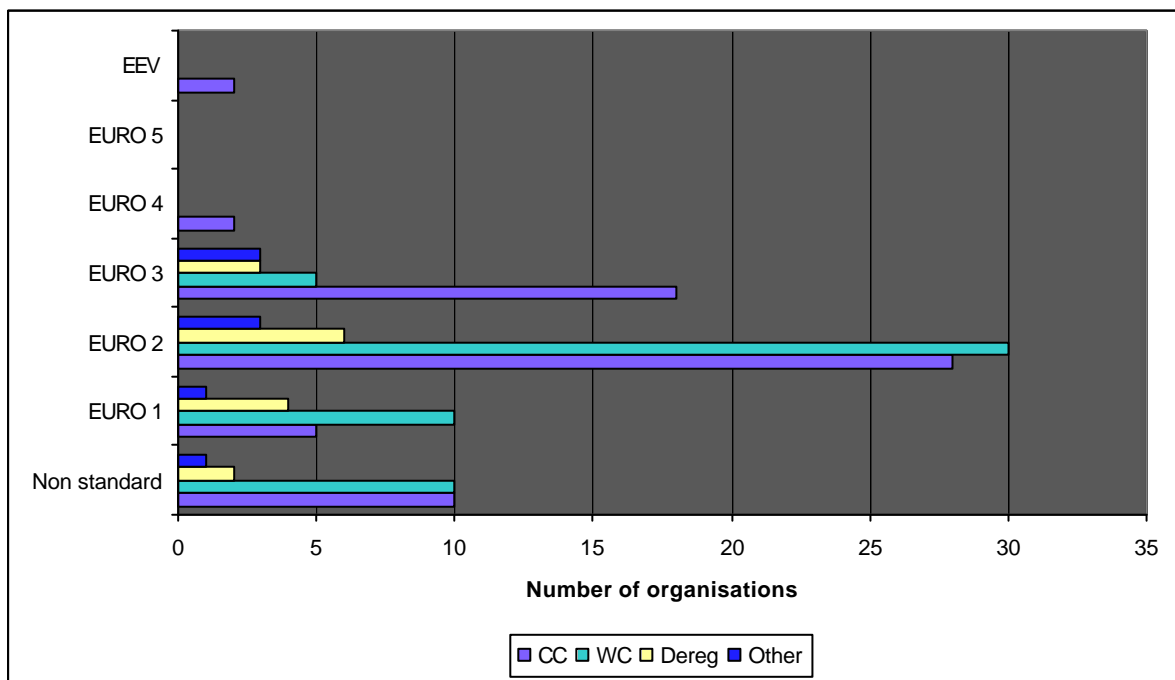
Figure 9 clearly shows that of the organisations that responded to this question, the majority (31%) of respondents applying quality criteria for public transport services operate under controlled competition. On the other hand, the highest amount (23%) of responses received from organisations not applying quality criteria were from public transport authorities using an exclusive provider (i.e. without competition).

Additional criteria provided, that is, in addition to the criteria presented in figure 10, are as follows: frequency of service and good links between different routes, comfort, lost mileage, level of emissions, petrol consumption, targeting ticket prices, drivers accuracy and friendly service provided, bus design (including low-floor buses and long buses), policy for staff development and number of trips.

3.2 Average EURO standard of the bus fleet

Question asked: What is the average EURO standard of the bus fleet for your city / region? *If buses with different standards are used, please tick what you consider is the average standard for your bus fleet. If known, please provide the number of buses in your city / region that meet a specific EURO standard.*

Figure 11 – Breakdown of responses received indicating the average standard of the bus fleet.



The responses received for this question, and also for the second part of the question (which asked for numbers of buses), show that providing information on emission standards of bus fleets is clearly quite difficult, compared to the other questions asked. 16% of respondents did not respond to this question, many stating that the information was not available.

Nevertheless, out of the number of organisations that were able to provide the information required (or in several cases an estimate), those using a system which operates under controlled competition clearly use buses which have a higher standard and therefore lower emissions proving more environmentally-friendly. Figure 11 (above) presents the most commonly used emission standard out of the three different operating systems as being the EURO 2 standard with 37% of total respondents indicating this being the average standard of their bus fleet. However, it is clear that respondents

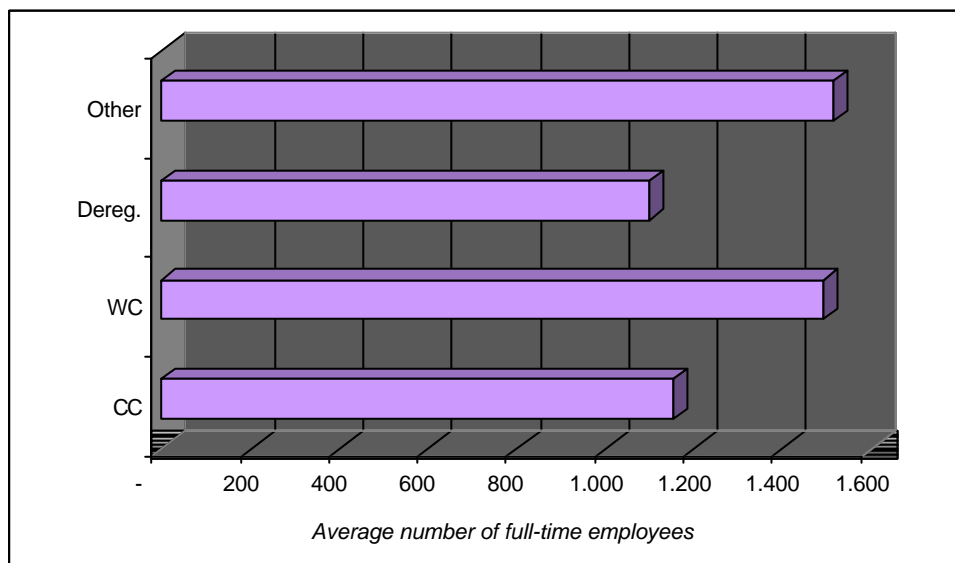
operating under controlled competition use buses with higher standard EURO standards compared to those operating without competition or under a deregulated model. 16% of the organisations that responded to this question have EURO 3 as the average standard of their bus fleet with a small number (representing 1%) using EURO 4 and EEV standards.

It is worth providing more information on the two responses received from cities which indicated that the average emission standard of their bus fleet was EEV (environmentally enhanced vehicles). The first response came from a small transport company in the City of Bocholt (Germany) who have an estimated 7 buses meeting the EEV standard through fitting them with continuously regenerating traps (CRT). CRT filters are particularly good to reduce PM but not beneficial to reduce NOx levels. The second response was from the City of Toulouse (France) where the damaged fleet of 150 buses (damaged as a result of a gas explosion) was entirely replaced with buses that run on natural gas thereby meeting the EEV emission standard.

3.3 Number of full-time staff employed in public transport companies and related transport authorities

Question asked: How many full-time equivalent staff are employed in public transport companies and related transport authorities in your city / region (*please refer to the most recent year for which figures are available*)?

Figure 12 – Breakdown of the average number of full-time staff employed in the responding authorities based on the operating system used.



The above results (from figure 12) show that transport authorities and companies operating under controlled competition, and also deregulated competition, appear to require less personnel than those authorities that operate without competition (or use another form of system).

3.4 Average gross annual salary for bus drivers

Question asked: What is the average gross (before tax) yearly salary for bus drivers of your city / region (not including *overtime*)?

Table 4 – Average gross salary for bus drivers per country compared to the average EU gross annual earnings in industry and services.

	Average gross yearly salary for bus drivers (€)	Average EU gross annual earnings in industry & services (2002 & 2003) (€) ¹	Percentage difference
Austria	21.367	-	-
Belgium	12.013	34.330	-65%
Croatia	9.828	-	-
Denmark	31.553	44.692*	-29%
Estonia	5.297	-	-
Finland	25.500	29.844	-15%
France	23.274	28.068**	-17%
Germany	31.585	40.375*	-22%
Greece	20.000	16.739*	19%
Hungary	6.587	5.871	12%
Ireland	23.650	-	-
Italy	27.965	-	-
Latvia	3.764	-	-
Netherlands	26.800	35.200	-24%
Poland	6.289	7.172	-12%
Portugal	-	13.450**	-
Romania	2.407	-	-
Russia	3.600	-	-
Slovakia	4.706	4.582	3%
Slovenia	8.488	-	-
Spain	23.458	19.220**	22%
Sweden	23.970	32.177**	-26%
Switzerland	46.831	48.498	-3%
UK	24.355	40.553	-40%

* Figure for 2003

** Estimated figure only

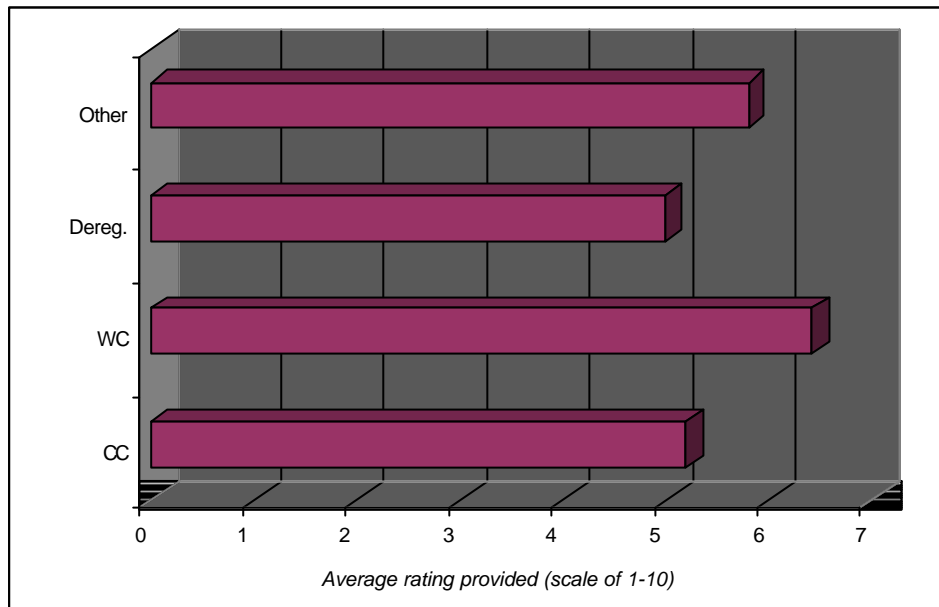
The figures provided per country are averages of the figures provided by the respondents. The percentage difference is the percentage difference between the figures provided and the average EU figures obtained.

¹ Figures obtained from Eurostat: <http://epp.eurostat.cec.eu.int/>

3.5 Public transport prioritised over private car transport

Question asked: On a scale of 1-10 how much do you agree with the following sentence: your local authority provides public transport with priority over private car transport (e.g. through separate bus lanes or tram tracks, traffic light priorities and cost covering car parking fees).

Figure 13 – Average rating provided on a scale of 1-10 (10=I fully agree) on whether public transport is prioritised over private car transport in the city or region.



4. Further comments

The results obtained from question 4 on current annual passenger trips and annual passenger trips 10 years ago are not presented in this report given that the method of calculating this statistic differs from city to city. For example, a journey in one city can be considered as 3 trips in another city. There the number of trips made by public transport per inhabitant is also not presented in this report. The number of passenger trips 10 years ago is not presented, nor analysed in this report due to lack of responses received for this part of the survey and also given that the number of inhabitants for that time is unknown.

The results obtained from question 9 of the survey on the total amount of subsidies² contributed by public authorities to public transport are also not presented in this report. This is due to lack of data and also due to the poor quality of the figures provided in a number of cases. A qualified analysis is therefore not possible.

The results from the questions mentioned are, however, available in the excel spreadsheet provided (please see Annex 2).

² Total amount of subsidies in this case includes running costs and investment in vehicles. It does not include investment in infrastructure.

ANNEX 1 – Sustainability in Urban Public Transport: Survey 2004

Sustainability in Urban Public Transport - Survey 2004

Please see page 4 for further guidance on specific questions. If you are unsure about the answer to any of the questions please estimate to the best of your knowledge. **Please write clearly.** In order to be included in the free prize draw, please send the completed survey **no later than 30 November 2004.**

First name:	Name of the city / region your organisation covers (in original language)
Family name:	Name of the city / region your organisation covers (in English):
Function (job title):	Phone:
Organisation (full name):	E-mail:
Type of organisation (e.g. Public Authority, Transport Company, other):	Fax:

1. What is the surface area of your city / region (km²)?

2. What is the population of your city / region?

3. Under which system does your public transport operate and when did this start? *(If the public transport operates under different systems please indicate the most dominant system that is used).*

Controlled competition (i.e. operation by a transport company is subject to competitive tendering and controlled by a public authority).

Without competition (i.e. the public authority or a publicly owned company provide public transport exclusively)

Deregulated competition (i.e. private companies operate without significant control by the local/regional public authority)

Other *(please specify)*

	Year Started
?	
?	
?	
?	

4. How many people in terms of annual passenger trips (not passenger kilometres) are using your public transport system *(please refer to the most recent year for which figures are available)*? How many people in terms of annual passenger trips were using your public transport system 10 years ago *(or latest year available)*?

Current annual passenger trips (using the most recent year for which figures are available)
Annual passenger trips 10 years ago (or latest year available)

Annual passenger trips

5. Do you apply any obligatory quality criteria (for example, punctuality, cleanliness, passenger satisfaction surveys etc) to public transport services? *Obligatory means that in case of non-compliance the transport company is penalised.*

Yes

No

If yes, please specify the criteria:

6. What is the average EURO³ standard of the bus fleet for your city / region? *If buses with different standards are used, please tick what you consider is the average standard for your bus fleet. If known, please provide the number of buses in your city / region that meet a specific EURO standard.*

	Average in city / region		Number of buses by EURO standard
Non standard	?	Non standard	
EURO 1	?	EURO 1	
EURO 2	?	EURO 2	
EURO 3	?	EURO 3	
EURO 4	?	EURO 4	
EURO 5	?	EURO 5	
EEV ⁴	?	EEV	

7. How many full-time equivalent staff are employed in public transport companies and related transport authorities in your city / region (please refer to the most recent year for which figures are available)?

8. What is the average gross (before tax) yearly salary for bus drivers of your city / region (not including overtime)?

³ In 1992 European regulations came into force to set limit values for the most important pollutants emitted by heavy-duty vehicles which include buses. These limit values are referred to as Euro I, II, III, IV and V. The EURO standards, following Directive 1999/96/EC, regulate the legal emissions levels of both heavy duty highway diesel engines and urban buses.

⁴ Enhanced Environmentally friendly Vehicles

	Average in city / region
Gross yearly salary (<i>in your country's currency</i>)	

9. What are the total amount of subsidies (total amount should include running costs and investment in vehicles but **should not include** investment in infrastructure) contributed by public authorities to public transport in your city / region (*please refer to most recent year for which figures are available*)? *We are aware that some authorities may not have a breakdown of these figures available, so please complete what you can.*

	Subsidies (<i>in your country's currency</i>)
Local	
Regional	
National	
Other	
Total	

10. On a scale of 1-10 how much do you agree with the following sentence: your local authority provides public transport with priority over private car transport (e.g. through separate bus lanes or tram tracks, traffic light priorities and cost covering car parking fees).

1= I do not agree ----- 10 = I fully agree

1	2	3	4	5	6	7	8	9	10

In order to be included in the free prize draw, please send the completed survey by fax or post **no later than 30 November 2004** to:

Mark Hidson, ICLEI European Secretariat, Leopoldring 3, D-79098 Freiburg, Germany.

Fax: +49-761 36892-79.

For any queries please contact Mark Hidson: email: siptram.survey@iclei-europe.org;

tel: +49-

761 36892-0.

Thank you for taking the time to complete the survey. The information will be used to help guide the further work in making European cities more sustainable.

Guidance notes for completing the SIPTRAM - Survey

To assist you in completing the survey the essential points to be answered have been highlighted with **BOLD** frames and guidance notes for some of the questions are given below.

Question 1 and 2: For the purposes of this survey the city / region is defined as the area a public transport system covers, in case of doubt or lack of data, please indicate the most suitable area yourself. The website www.citypopulation.de may help you in answering these questions as it contains data on city population and the geographical area of local public authorities around the world.

Question 4: For the purposes of this survey, we define a trip to be from 'origin to destination'. For example, a trip that starts with a bus, then tram and finally a train is one trip. If the information you have is derived from a different definition, please provide this definition along with the data. The purpose of this question is to be able

to make a comparison between annual passenger trips now with annual passenger trips several years ago, if suitable figures are available.

Question 6: Please estimate the average EURO standard of the bus fleet; we *do not* require any statistical data for this question.

Question 7: Please only provide figures for employees working in public transport companies and related transport authorities, *not* the total number employed in the whole local public authority.

Question 8: The purpose of this question is to enable us to compare the salaries of bus drivers with the national average salary for each country.

If you need further clarification on the questions please contact the SIPTRAM project team telephone +49-761/36892-0 or e-mail: siptram.survey@iclei-europe.org.

Terms and conditions of the prize draw

1. Entry into the draw is subject to the completion of the survey and personal details.
2. Entry is limited to one per person. Multiple entries will be discounted.
3. Closing date for entry into the prize draw is 30th November 2004.
4. Prize draw will take place week commencing 8th December 2004.
5. The winner will be notified by telephone and e-mail if possible.
6. ICLEI European Secretariat reserve the right to amend any of the above conditions without prior notice.

ANNEX 2 – Responses collected