



Latest figures on the urban bus fleet in the European Union

THIS PAPER OUTLINES KEY RESULTS OF A SURVEY ON THE URBAN BUS FLEET IN THE EUROPEAN UNION. THE PURPOSE OF THE SURVEY IS TO PROVIDE UITP AND ITS MEMBERS WITH FRESH AND QUANTIFIED INFORMATION IN SUPPORT OF DECISION-MAKING, ADVOCACY AND RESEARCH.

Scope of the survey

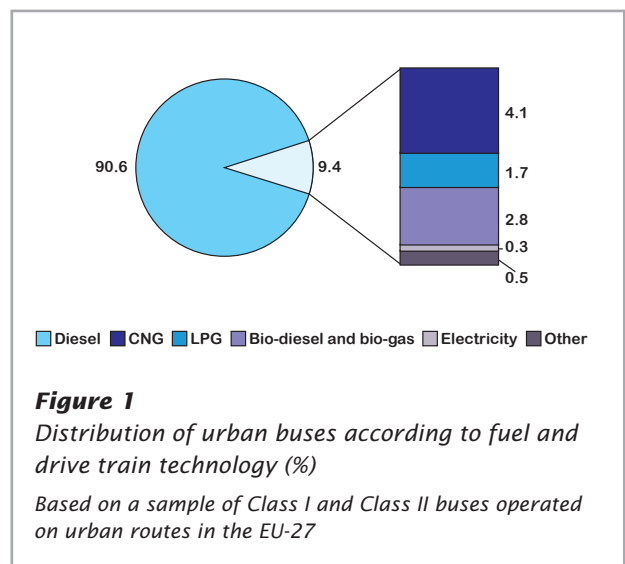
This survey provides data on fuel and drive train technology, accessibility features, age and structure of the bus and trolleybus fleet operated within EU cities of over 100,000 inhabitants, with reference to the year 2005. The survey also contains information on procurement mechanisms and fleet management.

The survey focuses on vehicles operated on urban routes and distinguishes vehicles of Class I and Class II (with reference to the EU Directive 2001/85/EC, commonly referred to as the EU Bus Directive). Where urban and suburban services are integrated and use the same Class of vehicles, collected data refer to the whole network (20% of the cases).

Responses were received from 173 undertakings in 171 cities, totaling a fleet of 70,000 buses and trolleybuses serving a population of over 120 million inhabitants. The amount of responses received and the representativeness of the sample varies from one country to another (further information on the survey methodology is available on request).

Fuel and drive train technologies

Over **90%** of the urban bus fleet in the sample is diesel powered. The remainder is mainly shared between CNG (Compressed Natural Gas), LPG (Liquified Petroleum Gas), bio-diesel and bio-gas, and full electric vehicles. The total proportion of other fuels (ethanol, various diesel/bio-diesel mixtures, fuel cells) is less than **0,5%**.



About **68%** of the diesel buses use low sulfur or ultra low sulfur diesel (maximum content of particles in the fuel of respectively 50 ppm or 10 ppm).

About **32%** of the buses are fitted with filters. Detailed figures show that the level of equipment in filters varies according to the type of fuel used.

Average values in figure 1 hide significant variations in the choice and the range of alternative fuels used in each EU country. In some cases, the variation is due to a single city. A water-diesel emulsion is used by **6%** of the diesel buses in France, and by just under **5%** in Italy, while it is very little used in other countries. CNG buses represent almost **20%** of the bus fleet in Helsinki

and Athens. LPG equips **100%** of buses in Vienna and about **14%** in Copenhagen. Bio-diesel is used by **29%** of the bus fleet in Luxemburg, **18%** in Austria (mainly Graz) and **6%** in Spain. The use of bio-gas is negligible, except in Sweden (in Stockholm, use is also made of ethanol). The proportion of electric buses in Italy is **5** times higher than the average of the whole sample.

Hybrid buses (mainly diesel-electric, with also some other technologies) represent **0.25%** of the total bus fleet in the sample. With respectively **8%** and **1%**, Luxemburg and Italy are forerunners in the use of hybrid buses.

Of all undertakings which indicated that they planned to acquire new buses for the 2006-2008 period, **48%** opted for CNG, **43%** for diesel, **9%** for bio-diesel, **5%** for LPG, **4%** for bio-gas and **4%** for hybrid buses (please note that the choices are not mutually exclusive).

• The database provides information on the distribution of the urban bus fleet according to fuel and drive train technology: diesel (with details for filters, water-diesel emulsion, U/LSD), CNG (+ filters), LPG (+ filters), Bio-diesel (+ filters), Bio-gas (+ filters), other fuels (+ filter), electricity, fuel cells, H2 combustion, hybrid vehicles. This information is available by country, by size of population covered by the urban (+suburban) network, and by Class of buses (Class I, Class II).

Euro standards

In the sample, the most frequent categories are **Euro 2** and **Euro 3** which together represent **2/3** of the buses. Euro 2 is the most frequent standard in **11** countries, whereas Euro 3 is the most frequent in **8** countries. In most other countries, the most frequent category is of a lower Euro standard (figures 2 and 4).

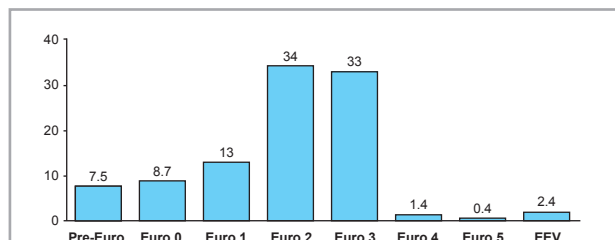


Figure 2

Distribution of buses urban according to EURO standard (%)

Based on a sample of Class I and Class II buses (running on fuel) operated on urban routes in the EU-27

Of all undertakings which indicated that they planned to acquire new buses for the 2006-2008 period, **68%** opted for Euro 4, **33%** for Euro 5, **27%** for EEV, and **10%** for Euro 3 (please note that the choices are not mutually exclusive).

• The database provides information on the distribution of the urban bus fleet according to Euro type (Pre-Euro, Euro 0 to Euro 5, EEV). This information is available by country, by size of population covered by the urban (+suburban) network, and by Class of buses. The database also features two-entry tables with fuel/drive train technology and Euro standard. This information is available by Class of buses. Finally, the database also contains information on the intentions of public transport undertakings regarding the acquisition of new vehicles in 2006-2008 (by type of fuel and drive train technology, by Euro standard).

Accessibility features

The EU Bus Directive defines a low floor vehicle as a vehicle of Class I or II in which at least 35% of the area available for standing passengers forms an area without steps and includes access to at least one service door. Figure 3 shows the proportion of buses and trolleybuses which are, respectively, low floor according to the EU Bus Directive, 100% low floor, and neither of the two.

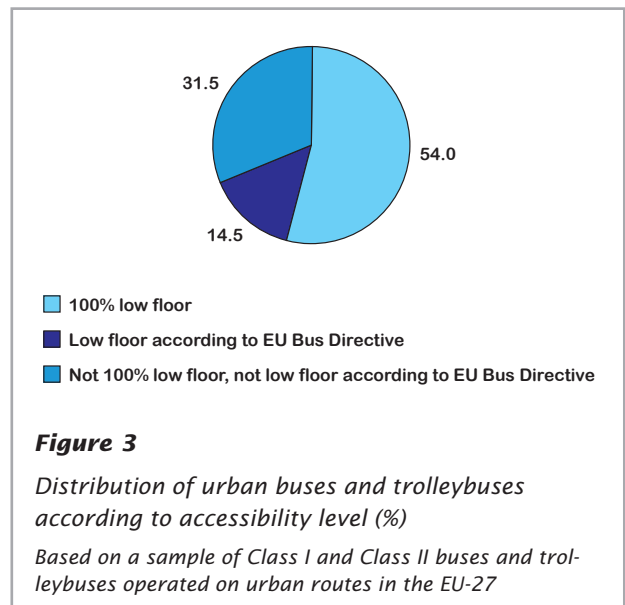


Figure 3

Distribution of urban buses and trolleybuses according to accessibility level (%)

Based on a sample of Class I and Class II buses and trolleybuses operated on urban routes in the EU-27

| | Most frequent EURO standard | Proportion of 100% low floor buses/trolleybuses | Average bus age | Average trolleybus age |
|---------------------------|-----------------------------|---|-----------------|------------------------|
| Austria | EEV | 50 | 6.7 | 9.5 |
| Belgium | Euro 2 | 52 | 8.6 | 19.0 |
| Bulgaria (*) | Euro 1 | 9 | 12.0 | |
| Cyprus | | | | |
| Czech Republic (*) | Euro 2 | 17 | 8.3 | 11.0 |
| Denmark | Euro 2 | 0 | 6.0 | |
| Estonia | Pre Euro | 4 | 13.7 | 16.0 |
| Finland | Euro 2 | 33 | 5.7 | |
| France | Euro 2 | 56 | 7.7 | 7.0 |
| Germany | Euro 3 | 84 | 6.9 | |
| Greece (*) | Euro 2 | 89 | 6.8 | 4.0 |
| Hungary | Euro 1 | 16 | 12.5 | 16.4 |
| Ireland | Euro 2 | 0 | 6.0 | |
| Italy | Euro 2 | 52 | 8.3 | 12.6 |
| Latvia | Euro 3 | 0 | | 14.0 |
| Lithuania (*) | Euro 1 | 33 | 10.0 | |
| Luxembourg | Euro 3 | 85 | 7.0 | |
| Malta | Pre Euro | 26 | | |
| Netherlands (*) | Euro 2 | 64 | 7.0 | |
| Poland | Euro 2 | 28 | 10.4 | 12.1 |
| Portugal | Euro 3 | 40 | 9.7 | 23.0 |
| Romania (*) | Euro 3 | 26 | 7.7 | 8.1 |
| Slovakia (*) | | 4 | 13.0 | 13.0 |
| Slovenia (*) | Euro 2 | 38 | 9.2 | |
| Spain | Euro 3 | 79 | 6.3 | |
| Sweden | Euro 3 | 25 | 6,7 | |
| UK (*) | Euro 3 | 76 | 5,9 | |

Figure 4

Comparisons between countries

(*) Data from these countries must be considered with care as the response rate to the survey in those countries is relatively low.

As a 100% low floor bus/trolleybus is by definition low floor according to the EU Bus Directive, the total proportion of low floor buses and trolleybuses according to that Directive is **68%** on average in the sample.

Accessibility levels vary significantly from one country to another (cf. figure 4). According to the sample, **80%** or more of the bus and trolleybus

fleet is 100% low floor in Germany, Greece(*), Luxemburg and Spain.

Although a closer analysis should be made in order to confirm and to interpret this statement, it seems that the accessibility level tends to be higher in larger cities (figure 5).

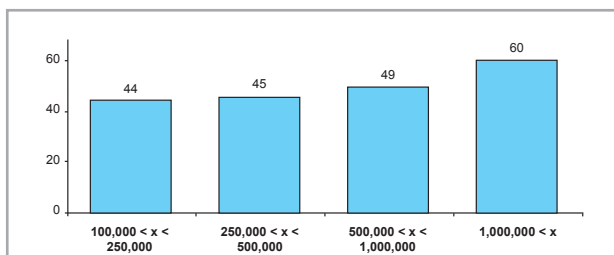


Figure 5

Percentage of the urban bus and trolleybus fleet which is 100% low floor according to size of the population covered by the urban (+suburban) network

Based on a sample of Class I and Class II buses and trolleybuses operated on urban routes in the EU-27

Average age of fleet

The average age of urban buses in the sample is **7.6** years. The average age of trolleybuses is **11** years. Denmark, Finland, Ireland, and the UK(*) have the youngest bus fleets as the average age is **6** years or less (cf. figure 4). The youngest trolleybus fleets are found in Greece and France.

- The database contains information on the average and the maximum age of buses and trolleybuses. This information is available by country, by size of population covered by the urban (+suburban) network, and by Class of vehicle.

- The database contains information on the accessibility level (100% low floor, floor according to EU Bus Directive, neither of the two) of buses and trolleybuses. This information is available by country, by size of population covered by the urban (+suburban) network, and by Class of vehicle. The database also contains information on the availability of additional accessibility equipment (manual ramp, automatic ramp, kneeling) for each level of accessibility, and by Class of vehicle. Finally information on the presence of a designated wheelchair area is also available in the database.

Much more in the database...

In addition to the elements outlined above, the database also contains information on the proportion of solo and articulated vehicles, and the part of the fleet used at peak time. This information is available for buses and trolleybuses by country, by size of population covered by the urban (+suburban) network, and by Class of vehicle.

The database also includes information on procurement mechanisms for new vehicles (tender procedure, financial support) and shows what is done with old buses.

The database is available in Excel and PDF format on a CD-Rom which is available on request. It is free for UITP members and for non member organizations which contributed to the survey. For other parties, the cost is 80 EUR.

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This survey is the first of a series on public transport statistics which aims at providing fresh data for analysis and advocacy of strategic aspects of public transport.

Further information on the www.uitp.org website

This is a publication of UITP, the International Association of Public Transport. UITP has over 2900 members in 90 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport world-wide.

This survey was carried out in close cooperation with the European Union Committee, the Bus Committee and the Sustainable Development Commission.

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