CHAPTER 4: MOVING AROUND IN THE CITY

On the one hand, destinations in a city need to be accessible to people living within and outside the city. On the other hand, urban transport can generate problems such as congestion, road accidents, noise and air pollution, as well as greenhouse gas emissions. As a result, urban transport networks must optimise infrastructure use, provide efficient services and encourage a shift towards more sustainable transport modes. The European Commission's 2019 European Green Deal Communication[25] states that transport in cities should become drastically less polluting, and that 'achieving sustainable transport means putting users first and providing them with more affordable, accessible, healthier and cleaner alternatives to their current mobility habits'. In addition, the Urban Agenda for the EU[26] underlines that good public transport is essential for cities and encourages the exchange of best practices between cities.

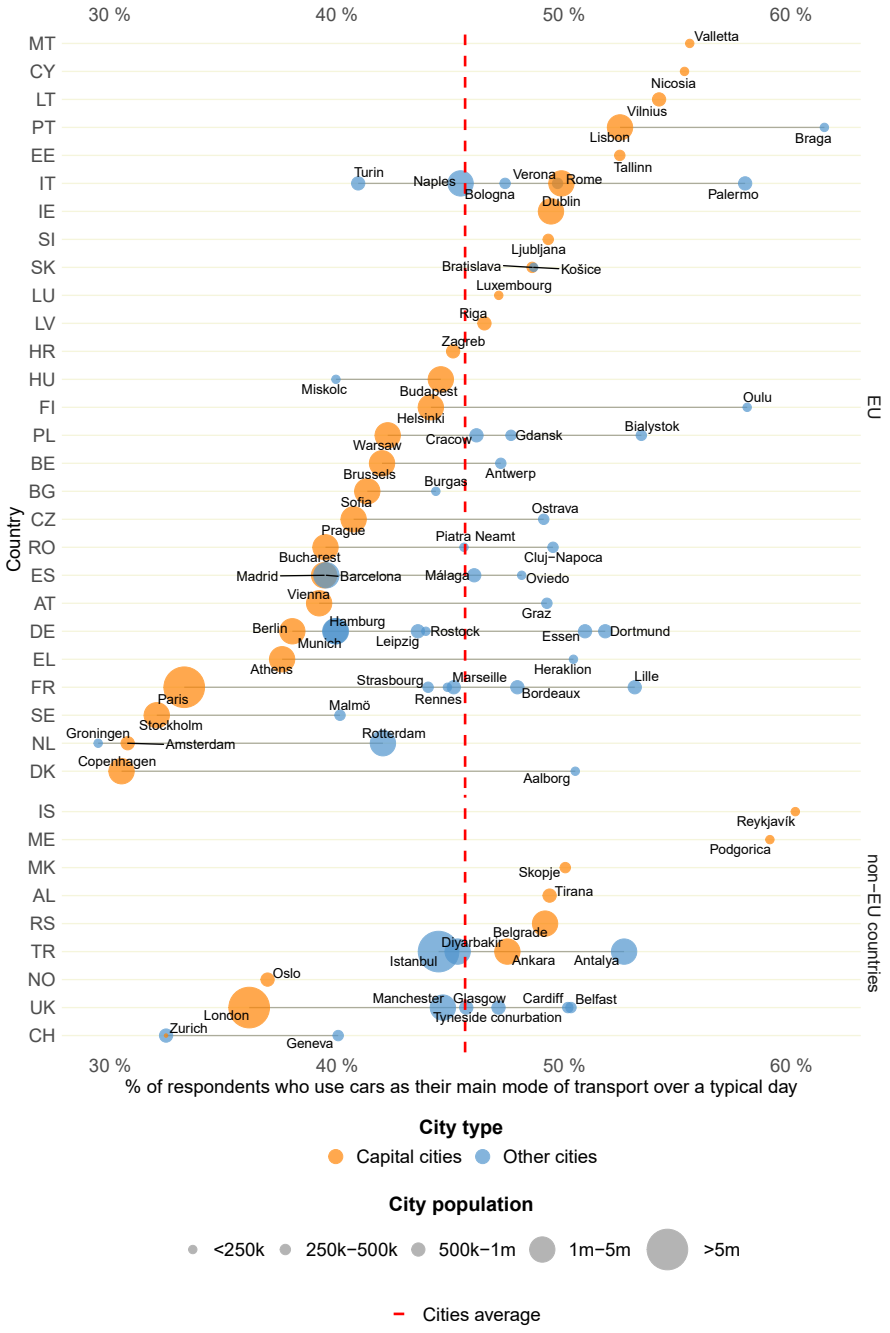
In this survey, people were asked which modes of transport they used on a typical day. If a respondent spontaneously mentioned two modes, both were recorded[27]. Results show that, on a typical day, 46% of city residents use the car. Public transport (bus, tram, train and metro) is used by 44% of city residents, followed by walking (24%) and cycling (16%). Only 8% use a motorcycle. If more residents use public transport, fewer use the car. In the survey, three cities – Amsterdam and Groningen (NL) and Copenhagen (DK) – have low values for both public transport and car use because so many people cycle.

Cars are used less in capital cities

The share of city residents who use cars varies from close to 30% to slightly above 60% (Figure 16), and declines with city size[28]. Car use differs substantially between cities in the same country, with differences of 20 pp in France and Italy and around 10 pp in Belgium, Germany, Spain, Poland and Romania. In most countries, the capital city has the lowest car use. Capital cities are usually the largest city in the country and tend to have good public transport services. Using the car in a capital may also be less attractive due to congestion and higher parking costs.

25. COM(2019) 640 final: Communication from the Commission: The European Green Deal.
26. Directorate-General for Regional and Urban Policy (2019): Urban Agenda for the EU - Multi-level governance in action.
27. As a result, the shares of people using different transport modes add up to more than 100%. Please note that these figures do not represent a modal split, which requires a travel diary with each trip and its mode.
28. While around 50% of residents say they use a car on a typical day in cities with less than 250 000 inhabitants, the percentage decreases to 46% in cities of between 500 000 and 1 million inhabitants. It drops further to 43% in cities of 1 million to 5 million inhabitants, reaching the minimum of 38% in cities with more than 5 million inhabitants.

FIGURE 16: Car use, by city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered). Data for Liège not available.

Cities with the highest car use tend be relatively small (Table 14). For example, Braga (PT), Reykjavík (IS), Podgorica (ME), Oulu (FI), Valletta (MT) and Nicosia (CY) all have a population below 250 000 inhabitants. Eight out of the ten cities with lowest car use are capitals, the only two exceptions being Zurich (CH) and Groningen (NL).

TABLE 14: People using the car on a typical day, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Braga (PT)	61 %
Reykjavík (IS)	60 %
Podgorica (ME)	59 %
Oulu (FI)	58 %
Palermo (IT)	58 %
Valletta (MT)	56 %
Nicosia (CY)	55 %
Vilnius (LT)	54 %
Białystok (PL)	53 %
Lille (FR)	53 %

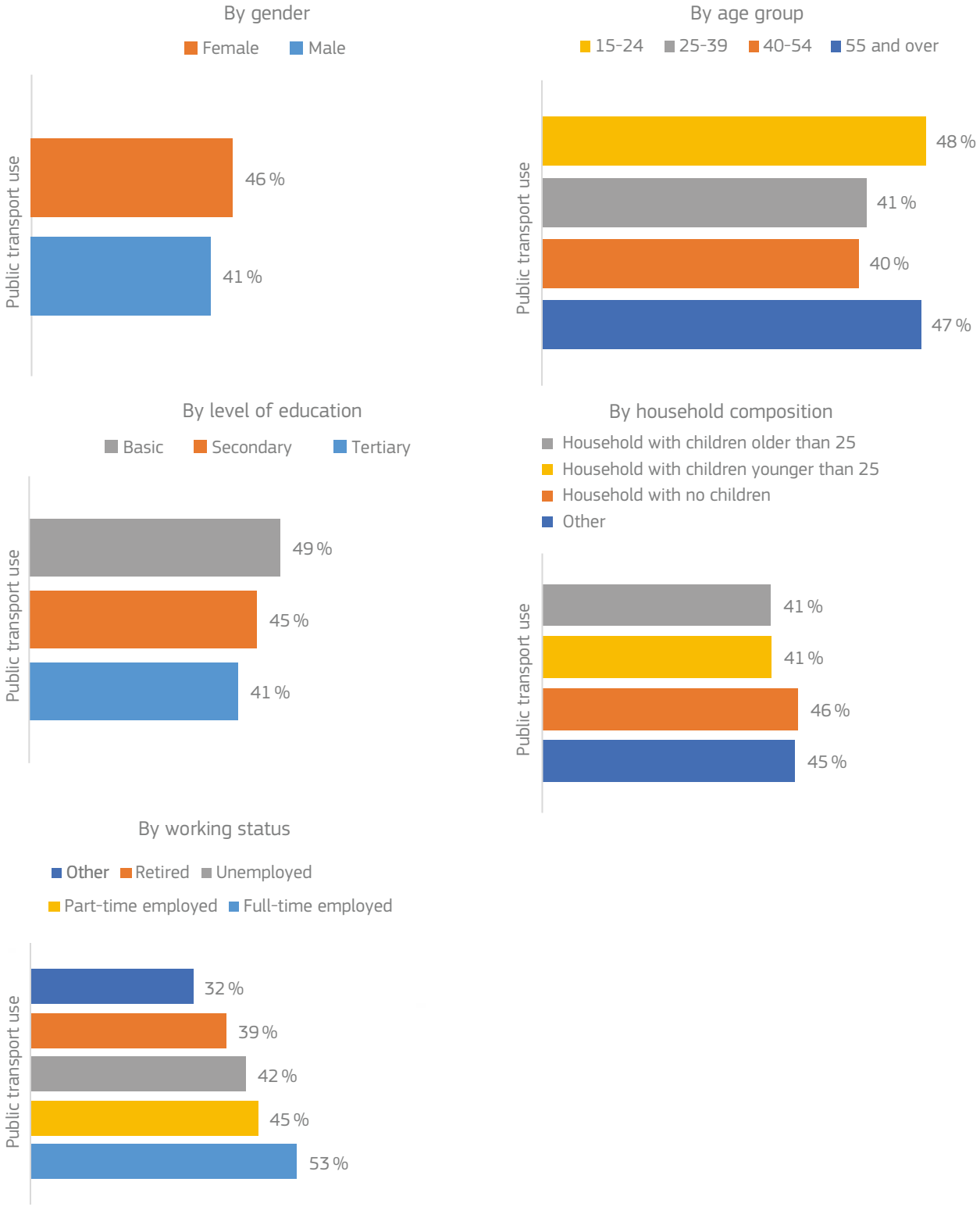
Bottom 10 (lowest score first)	
City	Score
Groningen (NL)	29 %
Copenhagen (DK)	31 %
Amsterdam (NL)	31 %
Stockholm (SE)	32 %
Zurich (CH)	32 %
Paris (FR)	33 %
London (UK)	36 %
Oslo (NO)	37 %
Athens (EL)	38 %
Berlin (DE)	38 %

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

Men are more likely to use the car: their share is 48 % compared to 44 % for women. Car use is highest among people aged 40 to 54 (53 %). As the education level increases, the share of car use goes up: from 34 % for those with basic education to 46 % with secondary education and 49 % for those with a tertiary degree which partly reflects the higher employment rates and income levels of the tertiary educated.

Households with children tend to use the car more frequently: 50 % of those with children older than 25 and 47 % of those with children younger than 25 compared to 44 % for households without children. Finally, the full-time employed are more likely to use a car on a typical day (53 %) than the part-time employed (45 %), the unemployed (42 %) or the retired (39 %) (Figure 17).

FIGURE 17: Car use on a typical day, by socio-demographic characteristics

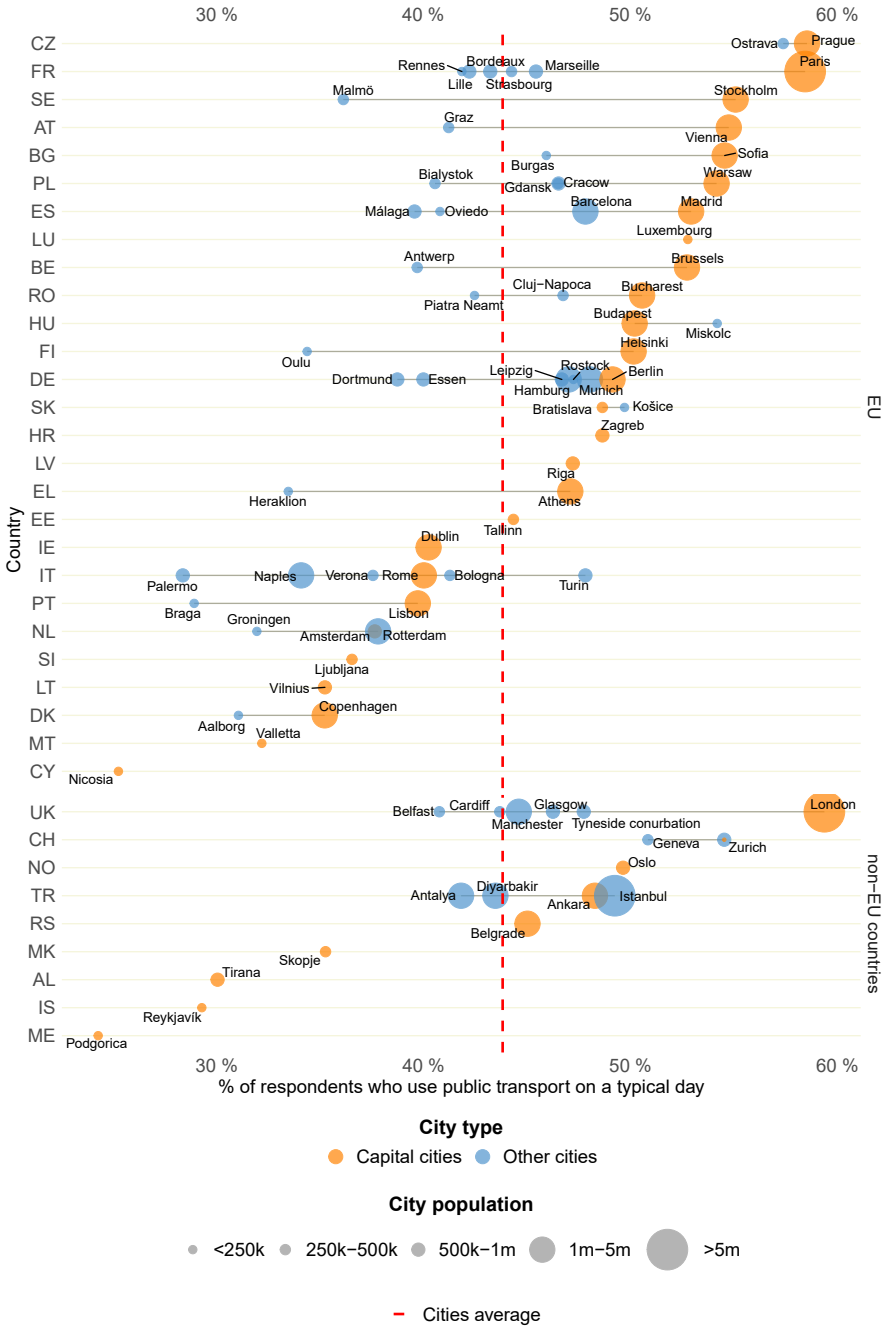


Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Larger cities have more public transport users

Across the cities, the share of public transport users varies from less than 30 % to slightly more than 60 % (Figure 18) and, unlike the car, this increases with city size[29]. The results mirror those for car use, due in part to the negative correlation with car use. Furthermore, for public transport use, the difference between cities within the same country is large, with gaps of around 20 pp in France, Italy and the UK and around 10 pp in Belgium, Germany, Spain, Poland and Romania. In most countries, the share of public transport use is highest in capital cities, in part because these cities tend to have an extensive public transport network with frequent services.

FIGURE 18: Public transport use, by city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered). Data for Liège not available.

29. While around 38 % of residents claim they use public transport on a typical day in cities with less than 250 000 inhabitants, the percentage increases to 43 % in cities with between 250 000 and 1 million inhabitants. It further increases to 46 % in cities with 1 million to 5 million inhabitants and reaches a maximum of 56 % in cities with more than 5 million inhabitants.

The top 10 cities in public transport use tend to be capital cities (Table 15). Outside the EU, London (UK) and Zurich (CH) have the highest use of public transport. The remaining 8 cities in the top 10 are in the EU and include six capitals, Ostrava (CZ) and Miskolc (HU). The cities in the bottom 10 include five smaller capitals, like Podgorica (ME), Nicosia (CY), Reykjavík (IS), Valletta (MT) and Tirana (AL) which are the largest among the bottom 10 in terms of population size.

TABLE 15: People using public transport on a typical day, top and bottom 10 scores

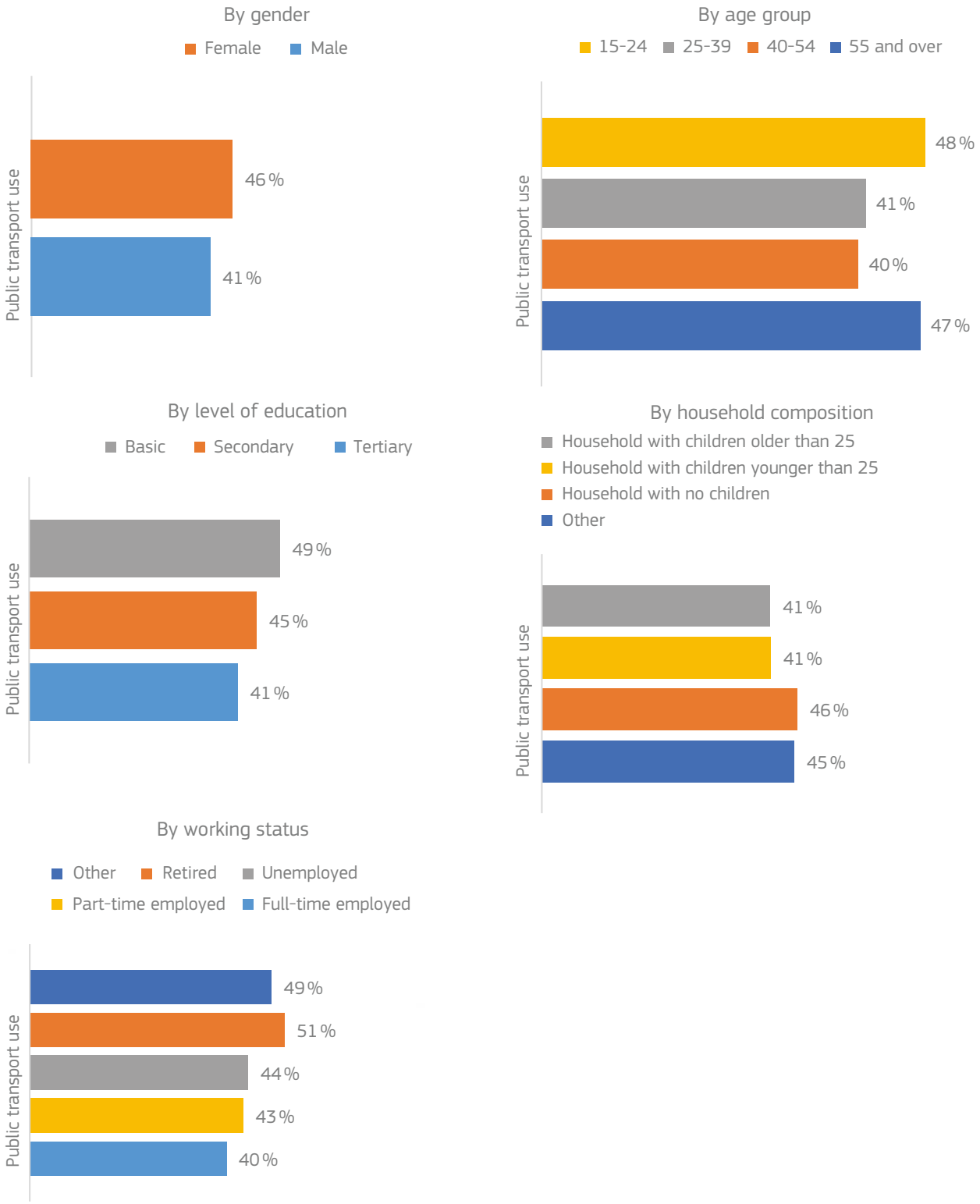
Top 10 (highest score first)	
City	Score
London (UK)	59%
Prague (CZ)	59%
Paris (FR)	58%
Ostrava (CZ)	57%
Stockholm (SE)	55%
Vienna (AT)	55%
Sofia (BG)	55%
Zurich (CH)	55%
Miskolc (HU)	54%
Warsaw (PL)	54%

Bottom 10 (lowest score first)	
City	Score
Podgorica (ME)	24%
Nicosia (CY)	25%
Palermo (IT)	28%
Braga (PT)	29%
Reykjavík (IS)	29%
Tirana (AL)	30%
Aalborg (DK)	31%
Groningen (NL)	32%
Valletta (MT)	32%
Heraklion (EL)	33%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

Public transport users are more likely to be women, the share being 46% which is 5 pp higher than for men (41%). The share of public transport users is higher in two distinct age groups: from 55 and over (47%) and in the 15 to 24 group (48%). Public transport use tends to drop as the education level rises, mirroring greater car use among those with a higher level of education. Among those with a basic education level, 49% use public transport compared to 45% for those with secondary and 41% for those with tertiary education. This is partly due to the higher employment rates and income levels of the tertiary educated. Households without children tend to use public transport more frequently (46%). Finally, on a typical day, when it comes to working status, retired people are more likely to use public transport (51%) than other groups (Figure 19).

FIGURE 19: Use of public transport on a typical day, by socio-demographic characteristics



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered). Data for Liège not available.

Only a few cities have a high share of daily cyclists

Cycling is an important transport mode in only a few cities. Across all cities in the survey, cycling tends to decline with city size[30]. On a typical day, only three cities report more than 35% of their residents using a bike (Table 16): Groningen and Amsterdam in the Netherlands and Copenhagen in Denmark. The 10 cities with lowest score range between 5% and 9%. Nevertheless, cycling has a lot of potential as a green and active mode which allows people to maintain social distancing. During the COVID-19 lockdown, many cities in Europe have made more road space available to pedestrians and cyclists. Now that Europe is emerging from this confinement, maintaining and expanding the cycling networks could encourage more people to ride a bicycle instead of driving or taking public transport. The new trend in micro-mobility, with e-scooters and e-bikes being bought or rented, can provide people with new, fast and safe travel options, as long as a good network is in place.

Cycling use varies between cities in several countries, especially countries with a few cities with a high share, such as the Netherlands, Denmark, Sweden and German (Figure 20). In some countries, several cities show significant differences to the others (e.g. Antwerp in Belgium, Strasbourg in France). Among the non-EU cities, only Oslo (NO) and Tirana (AL) show slightly higher percentages of bike use than the average of the cities in the survey.

TABLE 16: People cycling on a typical day, top and bottom 10 scores

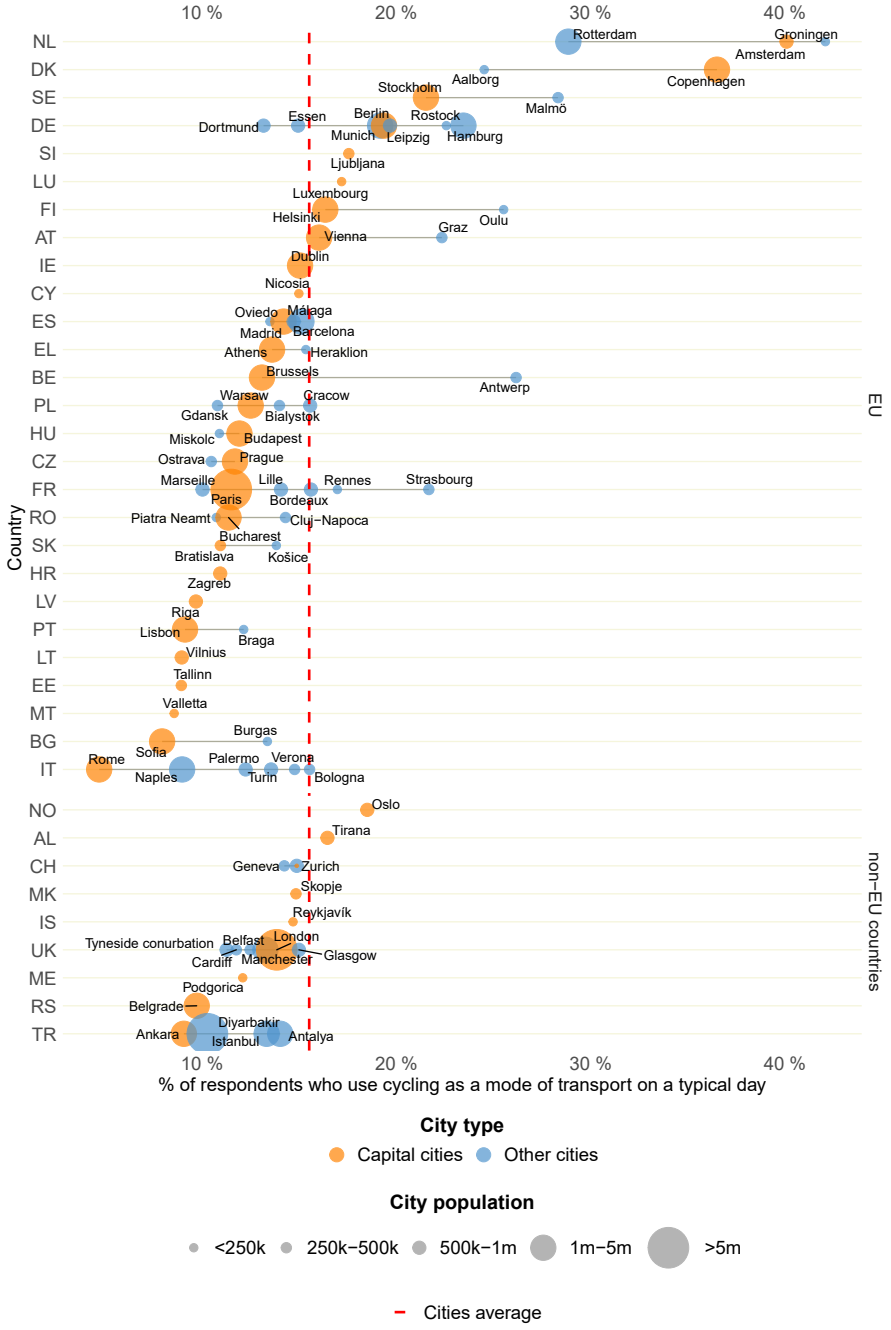
Top 10 (highest score first)	
City	Score
Groningen (NL)	42%
Amsterdam (NL)	40%
Copenhagen (DK)	37%
Rotterdam (NL)	29%
Malmö (SE)	28%
Antwerp (BE)	26%
Oulu (FI)	26%
Aalborg (DK)	25%
Hamburg (DE)	23%
Rostock (DE)	23%

Bottom 10 (lowest score first)	
City	Score
Rome (IT)	5%
Sofia (BG)	8%
Valletta (MT)	9%
Tallinn (EE)	9%
Vilnius (LT)	9%
Naples (IT)	9%
Ankara (TR)	9%
Lisbon (PT)	9%
Rīga (LV)	10%
Belgrade (RS)	10%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

30. While around 17% of residents say they use cycling on a typical day in cities with less than 250 000 inhabitants, the percentage decreases to 16% in cities with between 250 000 and 1 million inhabitants. It further declines to 15% in cities with from 1 million to 5 million inhabitants and drops to a minimum of 12% in cities with more than 5 million inhabitants.

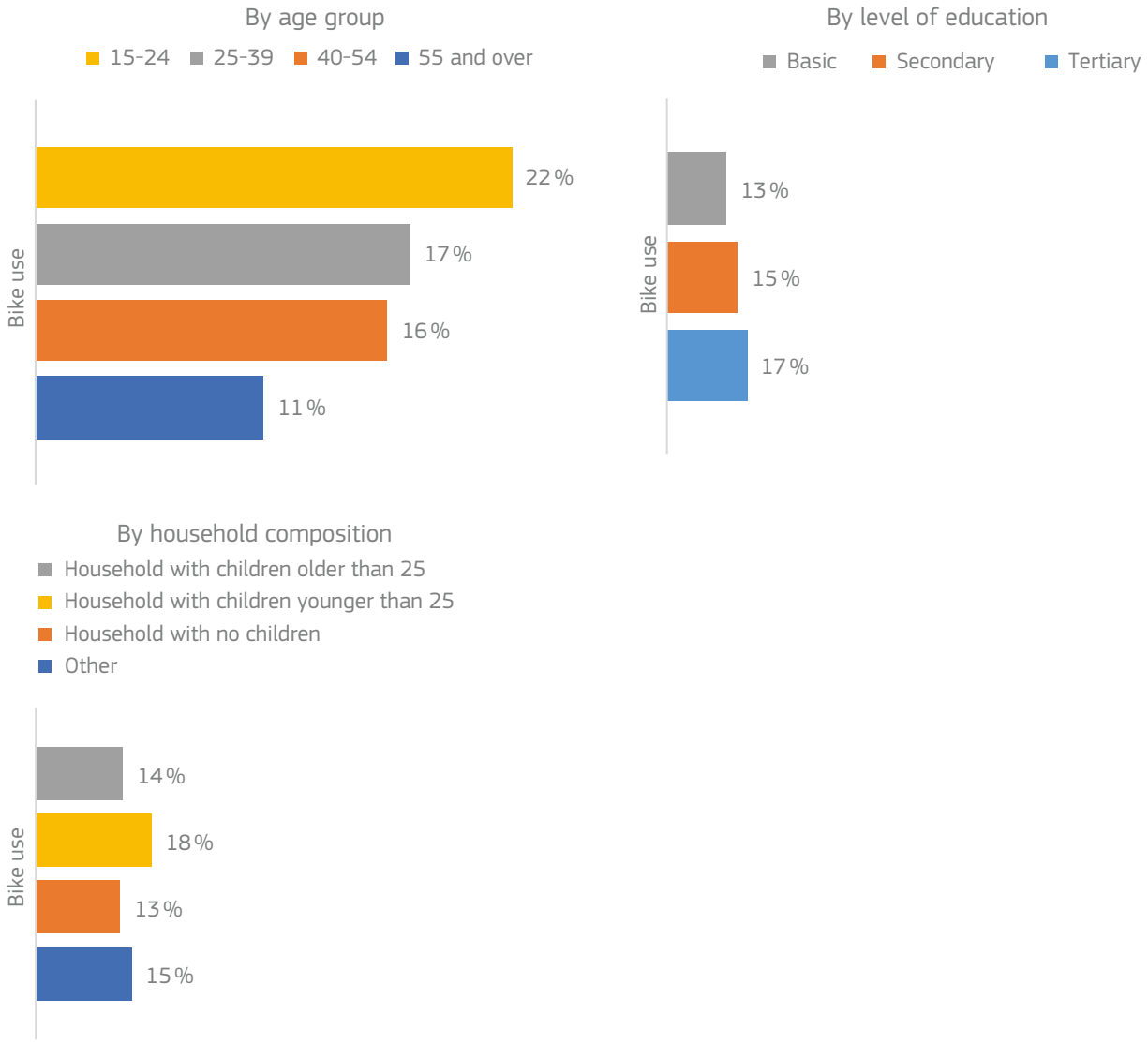
FIGURE 20: Cycling use, by city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered). Data for Liège not available.

In this survey, women were more likely to mention cycling than men. The 15 to 24 age group was twice as likely to use a bike on a typical day (22%) than residents aged over 55 years (11%) (Figure 21). When it comes to the other socio-demographic characteristics, the percentage of bike users is higher in the group with tertiary education (17%), in households with children younger than 25 (18%) and with a working status other than employed, retired or unemployed (22%).

FIGURE 21: Cycling on a typical day, by socio-demographic characteristics



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

High use of public transport and satisfaction with public transport go hand in hand

Overall, three out of four city residents are satisfied with public transport, although this figure varies from just 22 % in Palermo (IT) to 97 % in Zurich (CH) (Table 17). The top 10 cities all score above 88 %, while the bottom 10 score between 22 % and 55 %. Nine of the bottom ten cities are located in southern EU, the Western Balkans and Turkey.

TABLE 17: People satisfied with public transport in the city, top and bottom 10 scores

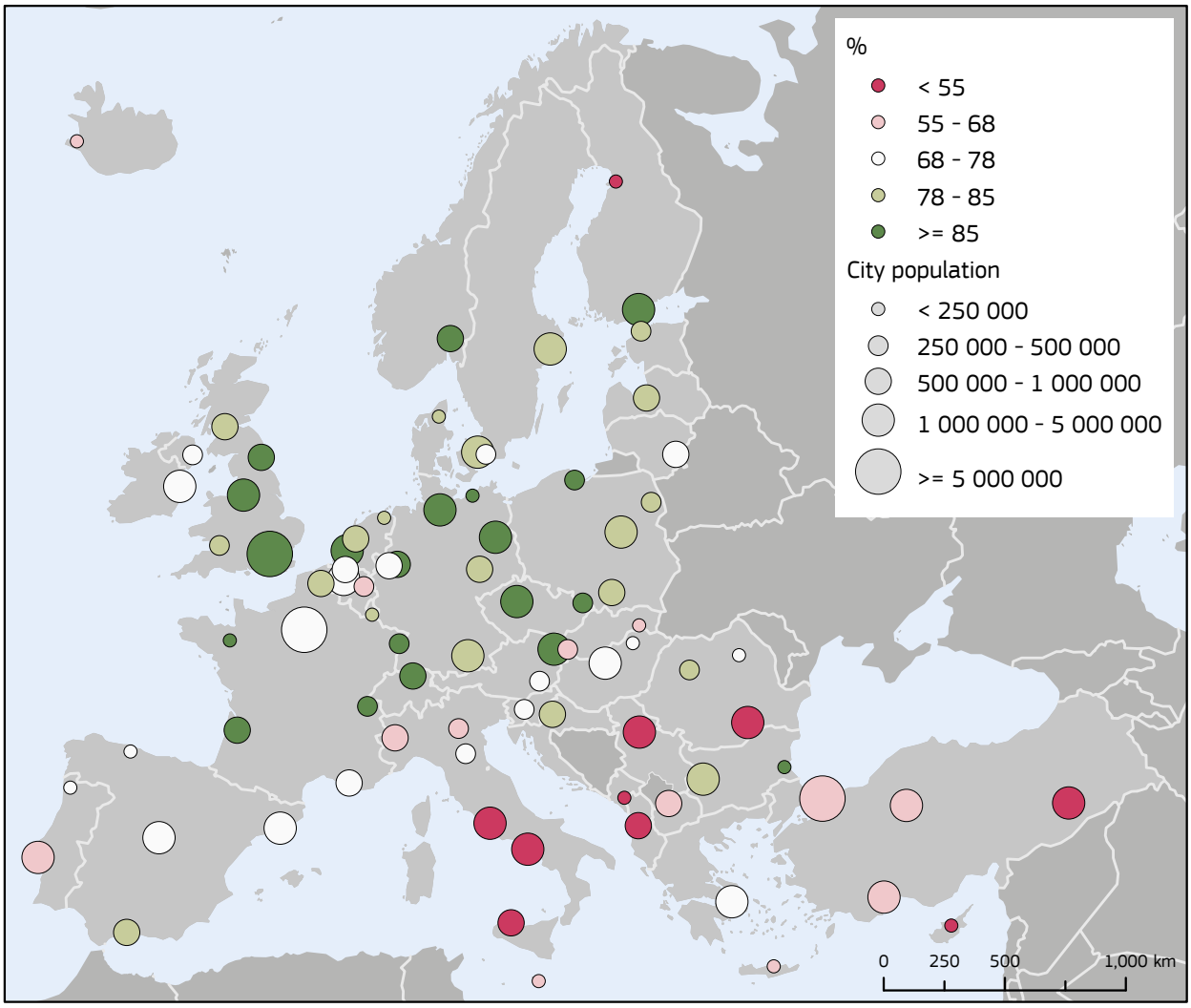
Top 10 (highest score first)	
City	Score
Zurich (CH)	97 %
Vienna (AT)	95 %
Rotterdam (NL)	92 %
Rostock (DE)	91 %
Prague (CZ)	90 %
Helsinki (FI)	90 %
Hamburg (DE)	90 %
Oslo (NO)	89 %
Ostrava (CZ)	89 %
Dortmund (DE)	88 %

Bottom 10 (lowest score first)	
City	Score
Palermo (IT)	22 %
Rome (IT)	26 %
Tirana (AL)	30 %
Naples (IT)	31 %
Podgorica (ME)	36 %
Belgrade (RS)	40 %
Nicosia (CY)	51 %
Oulu (FI)	52 %
Bucharest (RO)	53 %
Diyarbakir (TR)	55 %

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

On average, residents of capital cities are less likely to be satisfied (71%) than those living in non-capital cities (75%). Fewer residents are satisfied the southern EU cities (61%) and in non-EU cities in the Western Balkans and Turkey (50%) than in the rest of Europe (Map 12).

MAP 12: Satisfaction with public transport in the city



Public transport in the city

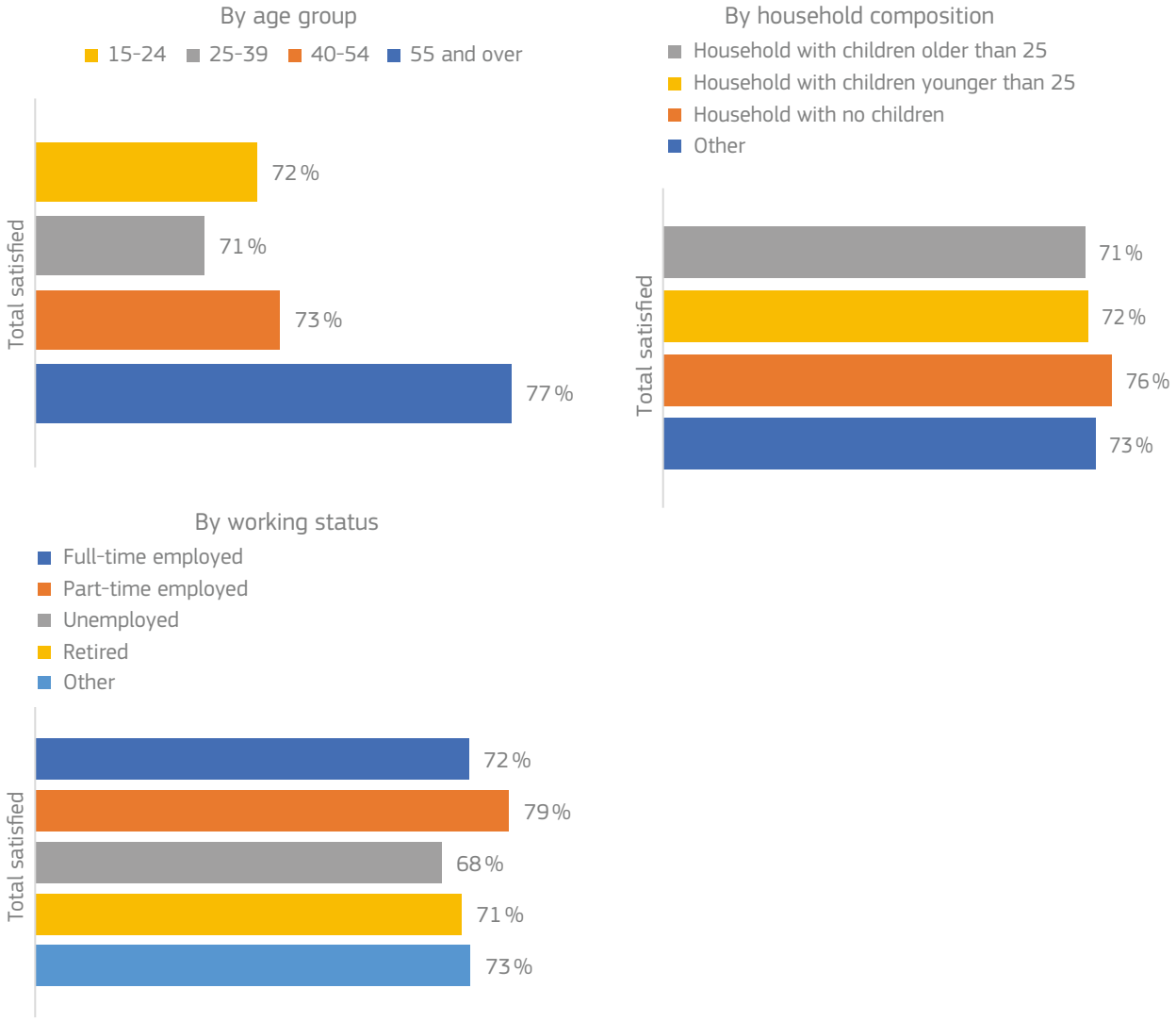
Public transport, for example the bus, tram or metro in the city: total satisfied (%)

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Compared to the 2015 edition, the share of satisfied residents increased most in Palermo, IT (+6 pp), Košice, SK (+6 pp) and Bratislava, SK (+3 pp). On the other hand, significant reductions can be found in Leipzig, DE (-10 pp), Burgas, BG (-10 pp), Białystok, PL (-9 pp), Cracow, PL (-8 pp) and Miskolc, HU (-6 pp).

Satisfaction with public transport is similar for men and women and across different levels of education, which is surprising given that the use of public transport varies by gender and education. People aged 55 or older are more satisfied on average (77 %) than the other groups, in particular those aged 25 to 39 (Figure 22). Residents in households with no children are more likely to be satisfied (76 %) than those in households with children younger or older than 25 (72 % and 71 %, respectively). Retired residents are most likely to be satisfied (79 %) and the unemployed least likely (68 %), while the employed score in-between (full-time 73 % and part-time 71 %).

FIGURE 22: Satisfaction with public transport in the city, by socio-demographic characteristics

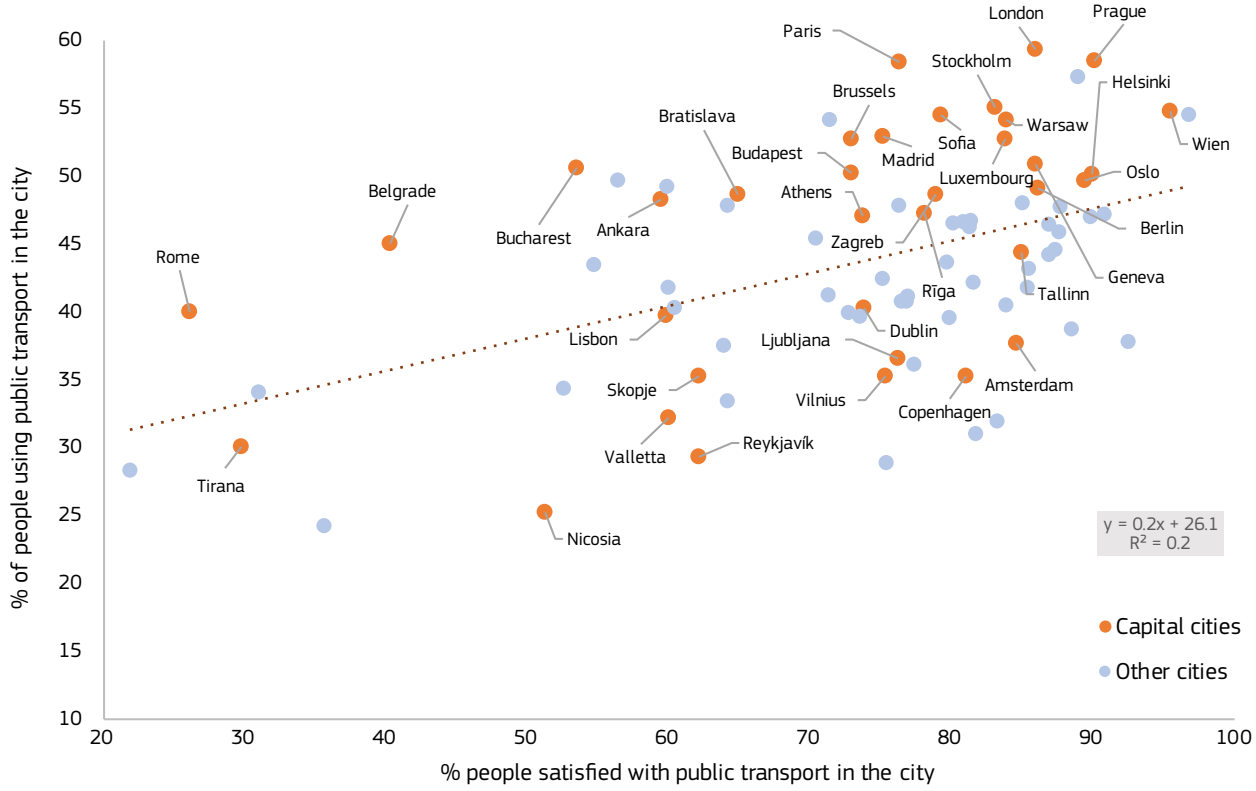


Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

In cities where more people are satisfied with public transport, more people use it (Figure 23). The variation in satisfaction with public transport explains a quarter of the variation in its use. This could mean that if people are satisfied with public transport, they are more likely to use it. Another explanation could be that if public transport services have a high frequency more people will use them and more people will be satisfied with them. Most capital cities have higher public transport use relative to the satisfaction with public transport, suggesting that despite similar levels of satisfaction, public transport in capital cities is generally used more than in non-capital ones, reflecting the results observed in Figure 18.

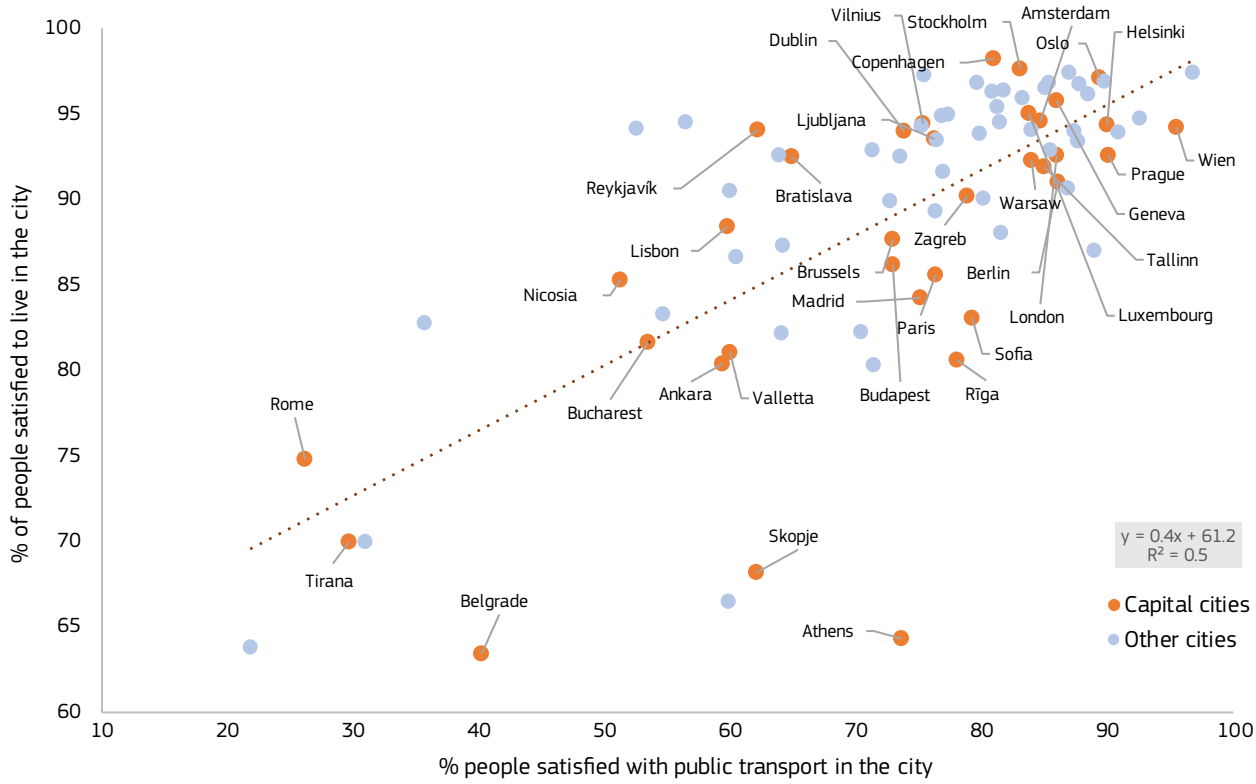
Satisfaction with public transport has an even stronger link to people's general satisfaction with a city and explains half the variation in general satisfaction (Figure 24). This suggests that people's judgement of public transport services has a big impact on their overall satisfaction with the city they live in.

FIGURE 23: People satisfied with public transport in the city *as against* people using public transport in the city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

FIGURE 24: Percentage of people satisfied with public transport in the city *as against* people satisfied with living in the city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

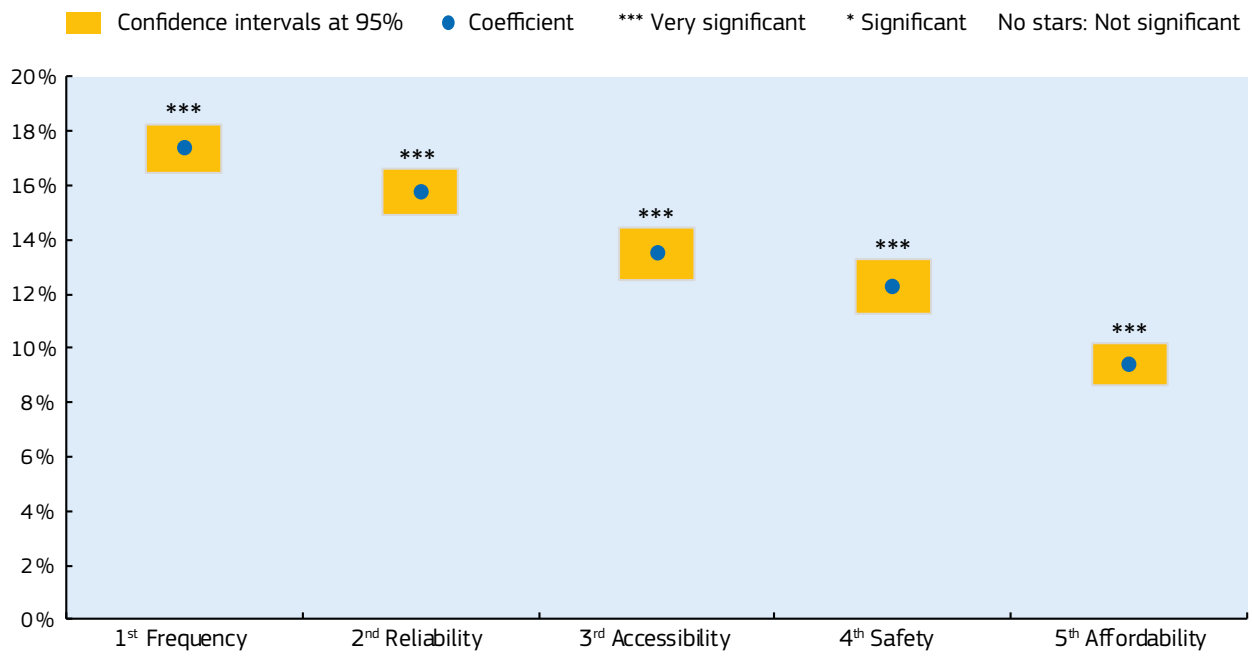
Frequent public transport is the most satisfying

Novel in the 2019 edition, the survey asked people about five key aspects of public transport: affordability, safety, accessibility (stops are easy to get to), frequency, and reliability of service (public transport arrives on schedule). To understand which of these has the most impact on satisfaction with public transport, a regression analysis was conducted controlling for gender, age, household composition, education, working status and whether a person lives in a capital city. A summary of the results is shown in Figure 25.

All five aspects have a significant impact on satisfaction with public transport. Frequency has the greatest impact: if a resident is satisfied with public transport frequency, his or her average satisfaction with transport increases by 17 pp. The second biggest contributing factor is reliability (+16 pp), followed by accessibility (+13 pp) and safety (+11 pp). Affordability seems to be the factor that contributes the least to satisfaction (+9 pp). Other research has found similar results. For example, a study by Lättman et al. (2008) on the city of Karlstad (SE) showed that quality, safety and the frequency of the service had the biggest impact on people's perception of the accessibility of bus transport.

One reason why affordability has the least impact on public transport satisfaction could be the relatively low public transport fares compared to other transport modes. Research in the UK (Paulley et al., 2006) suggests that increasing fares does not reduce public transport use in the short term, but does in the long run, especially for buses.

FIGURE 25: Regression analysis results of public transport satisfaction: coefficients for affordability, safety, accessibility, frequency and reliability of public transport services, ranked by magnitude



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

CHAPTER 5: CULTURE, SQUARES, PARKS AND HEALTH CARE IN THE CITY

Cities often boast major cultural facilities, activities and programmes that can attract large and diverse audiences and contribute to their individual and collective well-being (Blessi et al., 2016; Fancourt and Steptoe, 2018; Grossi et al., 2012; Grossi et al., 2019). Cultural and artistic activities can stimulate people's imagination and emotional responses (Ascenso et al., 2018), foster social interaction or healthy lifestyles (Jones et al., 2013) as well as helping to raise cognitive, creative and relational capabilities that empower people and make them feel part of a community (Wilson et al., 2017). With a view to promoting cultural participation and its well-being effects further, the New European Agenda for Culture (2018) aims at 'making available a wide range of cultural activities and providing opportunities to participate actively'[31].

In the urban context, green areas (i.e. parks, public gardens and nearby forests) can play a dual role: on the one hand, they can improve air quality by absorbing pollutants, absorbing rainwater and preventing floods. On the other hand, they provide opportunities for leisure activities and sport, facilitate social contacts and thus improve quality of life in a city.

The COVID-19 pandemic has indirectly led to a greater appreciation and use of many public spaces, which now have to be managed to ensure adequate social distancing. In some cities, squares and parks have been temporarily closed to reduce the spread of the virus.

This chapter starts with the amenities that promote social interaction: cultural facilities, public spaces and green spaces. It concludes with a look at health care services, critical to ensuring cities are inclusive and healthy.

Residents in smaller cities are highly satisfied with their cultural facilities

Cultural participation varies across Europe. In 2015, more than two thirds (69%) of the EU-28 population (aged 16 years or over) living in cities reported that they took part in cultural activities. This was higher than the rates for people living in towns and suburbs (64%) or rural areas (57%). The concentration of cultural venues in or around cities makes it easier for city residents to visit them (Eurostat, 2015). According to Eurofound (2017), a higher share of people living outside cities and suburbs report difficulties accessing cultural facilities compared to cities and suburbs (58% as against 19%). Yet, cultural participation opportunities may also differ between cities. Larger cities usually have more cultural activities and a wider range too, although smaller cities can also have notable cultural assets (Jayne et al., 2010; Lorentzen and Heur, 2012).

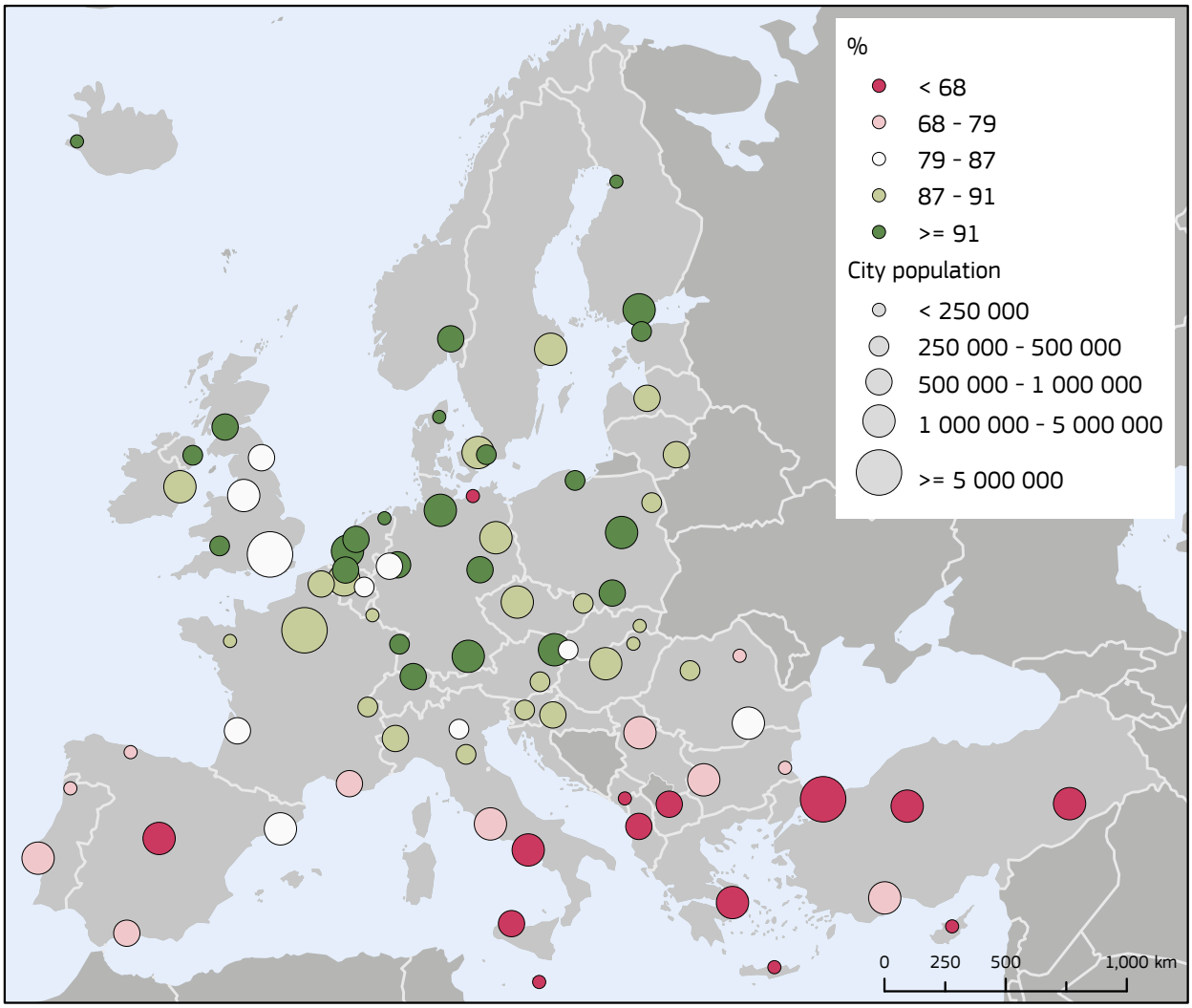
To assess how people in Europe perceive cultural facilities in their city, this section presents results on satisfaction with local cultural facilities, such as concert halls, theatres, museums and libraries.

31. European Commission (2018), Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on: a New European Agenda for Culture, (COM(2018) 267 final), page 3.

Satisfaction is generally high, with four out of five residents saying they are satisfied (83%). Across all cities, satisfied people number 92% in northern EU cities compared to 71% in cities in southern EU. However, various Italian and Spanish cities, like Bologna (IT, 89%), Turin (IT, 89%), Verona (IT, 84%), Barcelona (ES, 80%), Málaga (79%) and Oviedo (79%) score significantly above their regional average (Map 13).

On average, people living in cities in western and eastern EU are highly satisfied with local cultural facilities (89% and 87%, respectively). Marseille (FR, 78%) and Rostock (DE, 68%) are two outliers with a share of satisfied residents considerably below the western EU city average. Outside the EU, the share of satisfied residents is low in cities in the Western Balkans and Turkey (64%), and high in cities in EFTA countries and the UK (90%).

MAP 13: Satisfaction with cultural facilities in the city



Cultural facilities in the city

Cultural facilities such as concert halls, theatres, museums and libraries in the city: total satisfied (%)

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Satisfaction with cultural facilities is not a prerogative of capital cities: the average percentage of satisfied people is actually higher for non-capital cities (85%) than for capitals (81%). This is mainly due to the very good performance of various medium-sized to large cities across Europe, such as Aalborg (DK, 95%) and Cardiff (UK, 95%) as well as Oulu (FI, 94%), Groningen (NL, 94%), Malmö (SE, 94%), Strasbourg (FR, 93%), Gdańsk (PL, 93%) and Antwerp (BE, 92%).

Satisfaction with cultural facilities is linked to city size, but not in a linear way: in cities with less than 250 000 inhabitants, 78% of residents are satisfied. This proportion is considerably higher for cities with between 250 000 and 500 000 inhabitants (at 89%) but then declines for larger cities (83% and 81% for cities with up to 1 million and up to 5 million inhabitants, respectively). The average for the three cities with over 5 million inhabitants is also low (78%), but this mostly due to the low score of Istanbul (63%).

Relatively small intra-country variations can be observed for most countries, with the exception of a clear north-south divide in Italy, with people in northern cities more satisfied than those in southern Italian cities.

For the 52 cities for which data from 2015 and 2019 can be compared[32], satisfaction levels have remained stable in 36 cities and increased or decreased in the remainder. Braga (PT, 78%) registers the largest increase in satisfaction (4 pp), followed by Liège (BE, 84%), Oviedo (ES, 79%) and Piatra Neamț (RO, 73%) where satisfaction increased by 3 pp.

Cities where levels of satisfaction have fallen most are Graz (AT, 88%, -7 pp), Budapest (HU, 88%, -5 pp) and Essen (DE, 86%, -5 pp), although all three still score above the average in the 2019 survey. Satisfaction with cultural facilities is stable and high in cities like Ljubljana (SL, 88%), Luxembourg (LU, 91%), Miskolc (HU, 90%), Turin (IT, 89%) and Vilnius (LT, 90%).

The 10 cities with the highest share of residents satisfied with their cultural facilities are located in northern and western EU, EFTA countries and the UK (Table 18), scoring between 97% in Zurich and 93% in Munich. The bottom 10 cities are mainly located in southern EU, the Western Balkans and Turkey.

The share of satisfied residents increases slightly with the education level, with 81% of residents with basic education most satisfied as against 83% and 84% of those with secondary or tertiary education, respectively. This is very much in line with the literature on cultural participation (e.g. Falk and Katz-Gerro, 2016). No big differences were found between gender and age groups.

TABLE 18: People satisfied with cultural facilities in the city, top and bottom 10

Top 10 (highest score first)	
City	Score
Zurich (CH)	97%
Helsinki (FI)	96%
Vienna (AT)	95%
Aalborg (DK)	95%
Cardiff (UK)	95%
Oulu (FI)	94%
Groningen (NL)	94%
Malmö (SE)	94%
Amsterdam (NL)	93%
Munich (DE)	93%

Bottom 10 (lowest score first)	
City	Score
Valletta (MT)	40%
Tirana (AL)	53%
Heraklion (EL)	55%
Diyarbakir (TR)	60%
Podgorica (ME)	61%
Ankara (TR)	62%
Naples (IT)	63%
Palermo (IT)	63%
Istanbul (TR)	63%
Nicosia (CY)	65%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

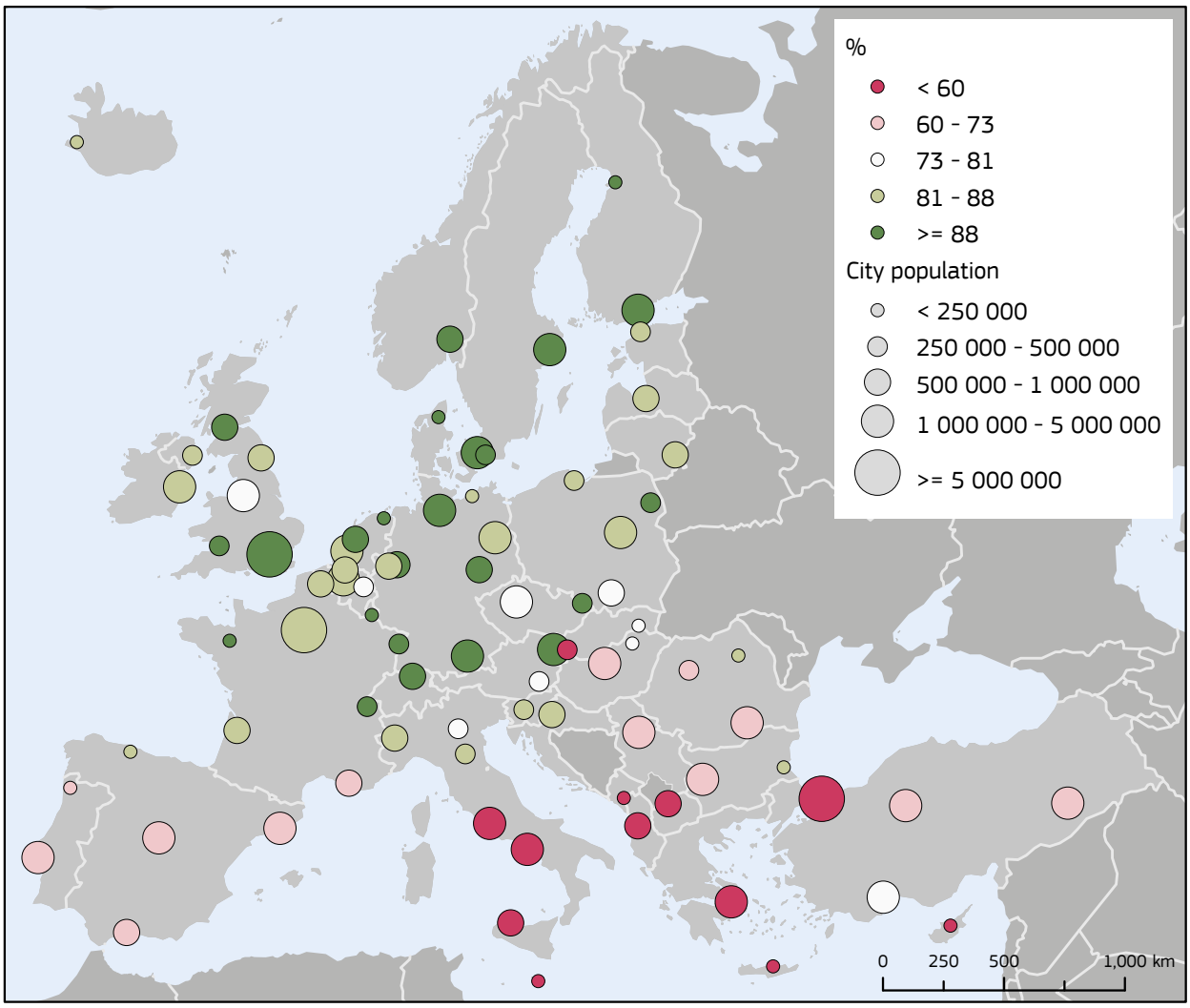
32. For the list of cities for which a comparison is feasible, see page 5.

More people with access to public green spaces means more people satisfied with them

Green urban areas can improve the quality of life in cities by providing places to relax and socialise or to do sports in a more natural setting. Green urban spaces can help to cool the city down during the hot summer and can improve air quality. In the cities in the survey, four out of five residents (77%) are satisfied with the green spaces in their city. Southern EU cities and those in the Western Balkans and Turkey have relatively low satisfaction rates, at around 60% (Map 14). Nevertheless, several southern EU cities score really well, including Bologna (86%) and Turin (81%) in Italy and Oviedo (83%) in Spain. On the other hand, a few western EU cities score poorly: Marseille (FR, 65%) and Liège (BE, 76%) compared to an average of 86%. Overall, people living in capital cities (74%) are less satisfied than those in non-capital cities (79%).

In some countries, the difference between cities is big. For example, in Italy, the best-performing city (Bologna with 86%) scores 56 pp higher than the lowest scoring city (Naples with 30%). Other countries with big differences between the best- and worst-performing city include France (28 pp), Spain and Turkey (both at 21 pp).

MAP 14: Satisfaction with green spaces, such as parks and gardens, in the city



Green spaces in the city

Green spaces such as parks and gardens in my city: total satisfied (%)

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Malmö has the highest share of residents satisfied with the green spaces in the city, at 96% (Table 19.) At the other extreme, around 3 out of 10 people living in Athens (EL, 29%) and Naples (IT, 30%) are satisfied. For cities for which a comparison with data from the 2015 survey can be done[33], cities included in the top and bottom groups remain stable over time. In particular, the cities of Malmö (SE, 96%) and Munich (DE, 94%) maintain their leadership over the two rankings, in both 2015 and 2019. Across all cities, Braga (PT, 73%), Dortmund (DE, 91%), Lisbon (PT, 70%) and Ostrava (CZ, 90%) all register the highest increase at 4 pp, whereas Turin (IT, 81%) and Rīga (LV, 87%) report the largest drop of 5 pp compared to their 2015 values.

TABLE 19: People satisfied with green spaces in the city, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Malmö (SE)	96%
Munich (DE)	94%
Helsinki (FI)	94%
Geneva (CH)	94%
Oslo (NO)	94%
Rennes (FR)	93%
London (UK)	93%
Aalborg (DK)	92%
Cardiff (UK)	92%
Copenhagen (DK)	92%

Bottom 10 (lowest score first)	
City	Score
Athens (EL)	29%
Naples (IT)	30%
Heraklion (EL)	31%
Palermo (IT)	35%
Valletta (MT)	44%
Skopje (MK)	44%
Tirana (AL)	47%
Nicosia (CY)	54%
Bratislava (SK)	55%
Podgorica (ME)	55%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

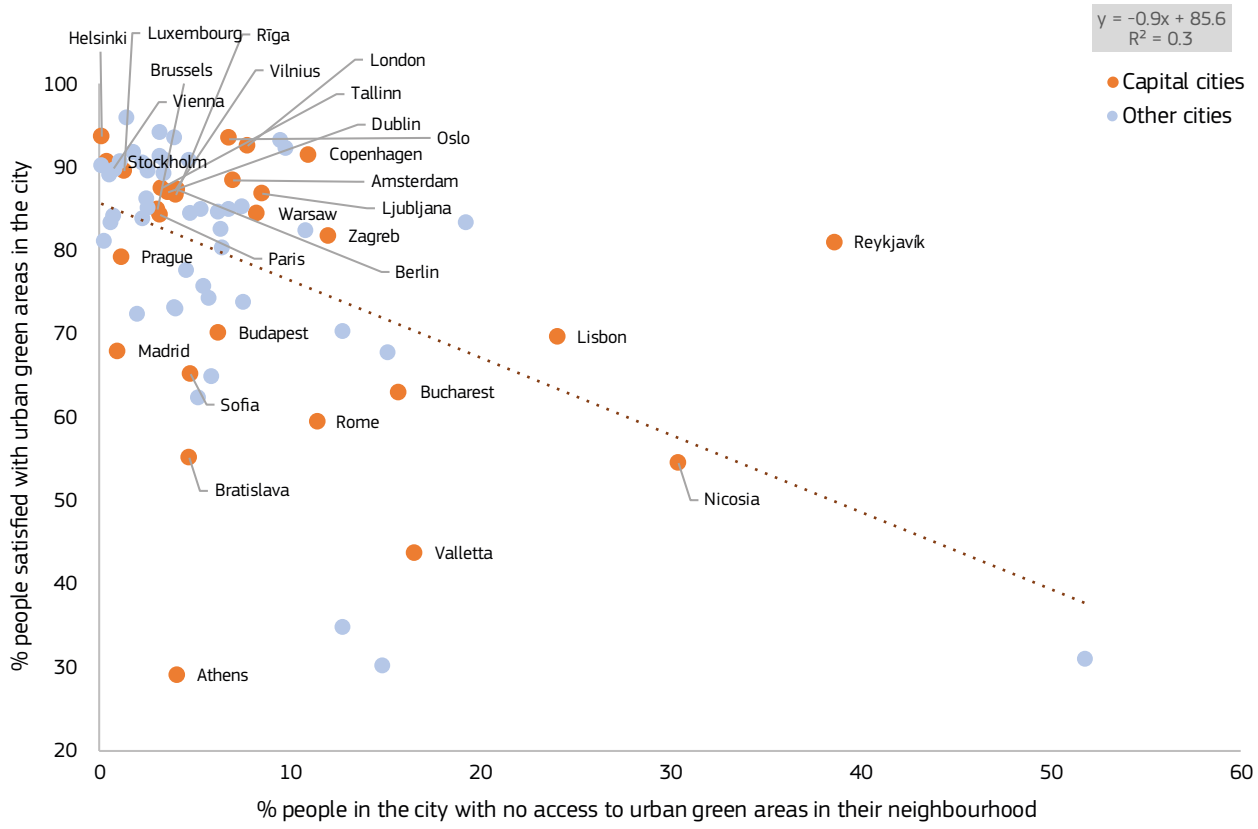
33. For the list of cities for which a comparison is feasible, see page 5.

People tend to be more satisfied in cities with greater access to green urban areas. Across all cities, fewer people without access to green space means more people satisfied with the green spaces in the city[34]. This supports the deprivation hypothesis whereby citizens' satisfaction is driven by the absence/deprivation of green areas rather than the marginal increase in their availability. Yet, some outliers can still be observed[35].

The distribution of green spaces across the city is what drives access to them. Cities with a large proportion of land dedicated to green urban areas can still have low levels of accessibility, if these spaces are not widely distributed. Large green areas in (affluent) low-density neighbourhoods provide access for fewer people than a smaller park in a high-density neighbourhood (Poelman, 2018).

Lacking access, however, is not the only thing that matters. For example, in Bratislava (SK) and Dortmund (DE), about 5% of the population do not have access to green spaces within a short walking distance, although their satisfaction rates differ widely: 55% for Bratislava compared to 91% for Dortmund. Other factors, including quality and maintenance, may be the reason behind these differences.

FIGURE 26: People satisfied with green spaces in the city *as against* the lack of access to green areas



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

34. Moreover, the negative impact of lack of access to green areas on people's satisfaction with green spaces is also confirmed using micro-data from the survey, by a multivariate regression that identifies a significant negative relationship, also after controlling for gender, age, education, working status and household composition.

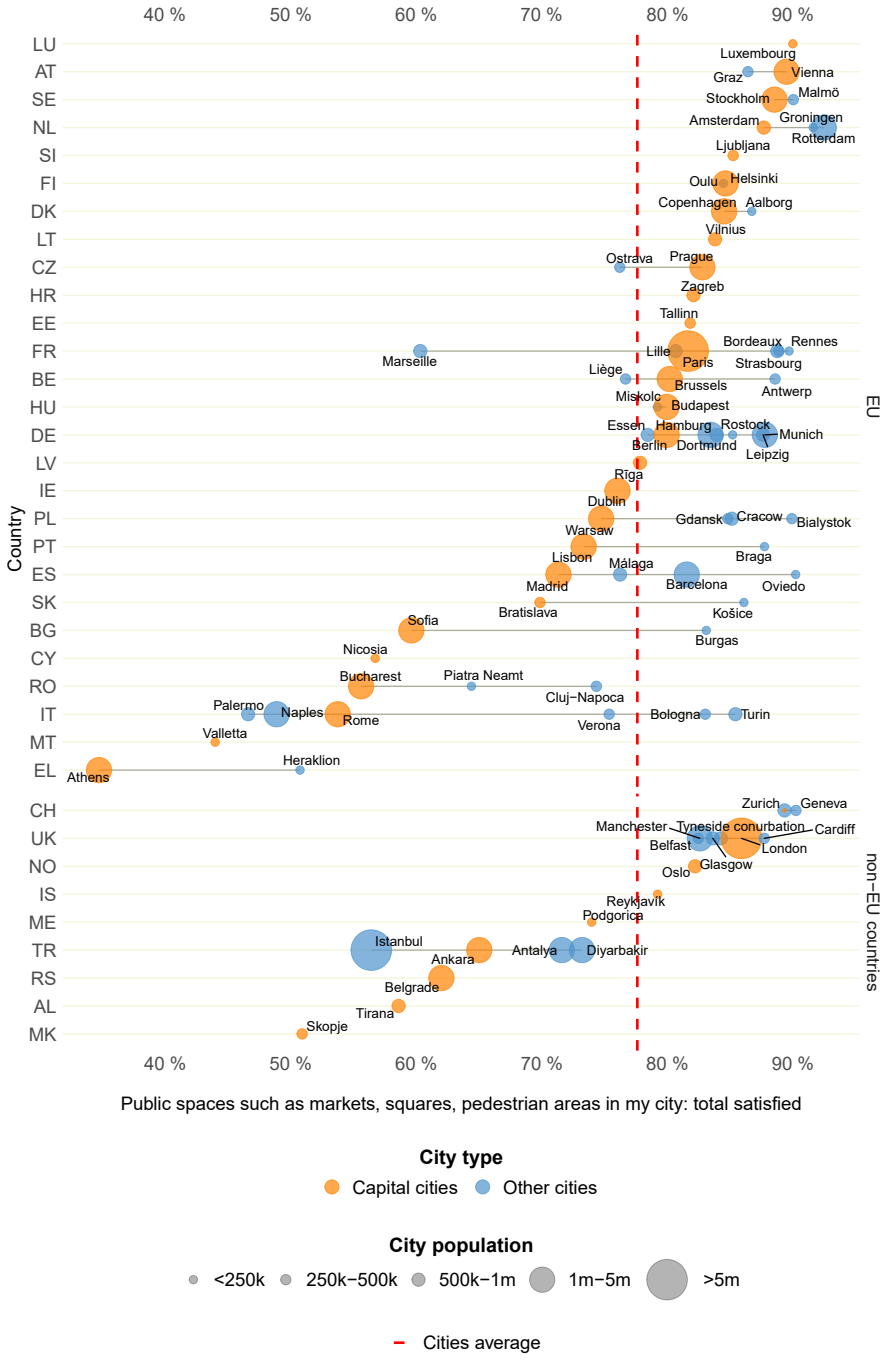
35. Among all of them, Reykjavík (IS) has a relatively high share of citizens without access to urban green areas (39%) as well as a clear above-average satisfaction level (81%). This may be due to high-quality, green spaces which are nearby but beyond a short walking distance.

People in non-capital cities are more satisfied with their public spaces

In the ancient Greece, the agora (i.e. the main square) was the centre of city life. From trading to politics, the polis (city state) here had its marketplace as well as its public arena where people could meet and discuss administrative and philosophical matters. Today, 2 500 years later, markets and squares still remain the most vibrant part of cities as they provide room for creativity, social interactions and economic activities.

In the cities in the survey, about 8 out of 10 residents are satisfied with public spaces (i.e. markets, squares and pedestrian areas) (77 %). Fewer people in cities in the Western Balkans and Turkey (64 %) and in southern EU (66 %) are satisfied (Figure 27). The highest satisfaction is found in cities in northern and western EU (both at 84 %) and in EFTA countries and the UK (85 %). The share of residents satisfied is smaller in capital cities (73 %) than in non-capital cities (89 %).

FIGURE 27: People satisfied with public spaces, by city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

In several countries, the difference between cities is big, in particular, in Bulgaria, France, Italy and Romania (Figure 27). With more than 9 out of 10 residents satisfied with the public space in their city, Rotterdam and Groningen (both NL, 92%) have the highest scores. At the bottom, less than 5 out of 10 residents are satisfied in Athens (EL, 35%), Valletta (MT, 44%), Palermo (IT, 47%) and Naples (IT, 49%).

For cities for which a comparison can be made with 2015 data[36], in both top and bottom groups, cities maintain their positions over time. In particular, Athens (EL, 34%), Valletta (MT, 42%) and Palermo (IT, 46%) remain at the bottom of the distribution in both years. Nevertheless, Palermo registers the largest increase between 2015 and 2019 – of 5 pp – together with Bratislava (SK, 70%). On the other hand, a large decline is registered in the cities of Hamburg (DE, 83%, -6 pp) and Budapest (HU, 80%, -5 pp), followed by Cracow (PL, 85%, -4pp).

TABLE 20: People satisfied with public spaces (i.e. markets, squares and pedestrian areas) in the city, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Rotterdam (NL)	92%
Groningen (NL)	92%
Geneva (CH)	90%
Oviedo (ES)	90%
Malmö (SE)	90%
Luxembourg (LU)	90%
Białystok (PL)	90%
Rennes (FR)	90%
Vienna (AT)	89%
Zurich (CH)	89%

Bottom 10 (lowest score first)	
City	Score
Athens (EL)	35%
Valletta (MT)	44%
Palermo (IT)	47%
Naples (IT)	49%
Heraklion (EL)	51%
Skopje (MK)	51%
Rome (IT)	54%
Bucharest (RO)	56%
Istanbul (TR)	56%
Nicosia (CY)	57%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

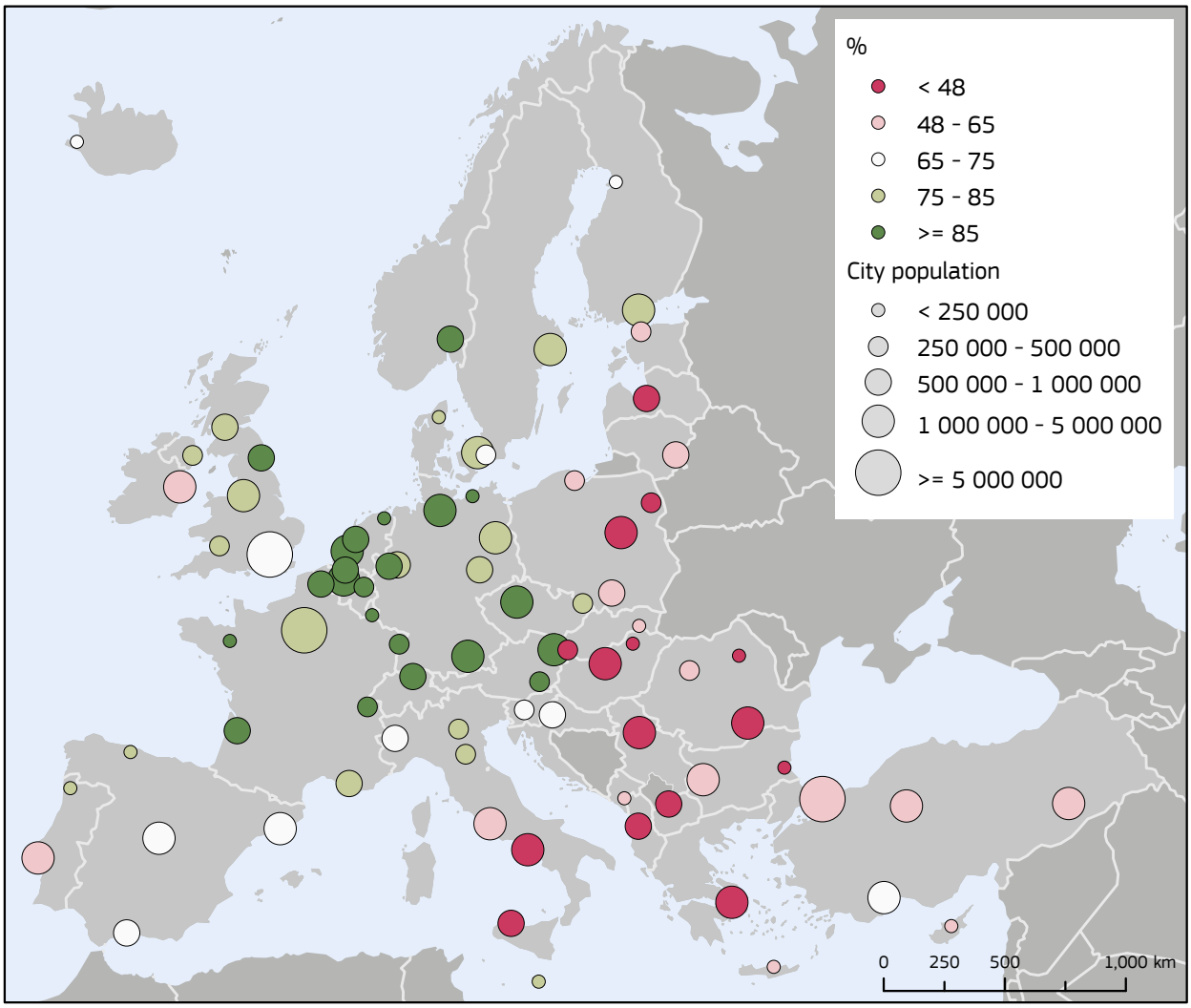
36. For the list of cities for which a comparison is feasible, see page 5.

People in capital cities are less satisfied with health care

In the EU, one in five people is 65 or older[37]. The expected growth of this group underlines the need for a well-functioning health care system, an issue highlighted even more by the COVID-19 outbreak.

People's opinion about the local health care system (i.e. hospitals and medical services) can help to indicate where the system responds to people's expectations and where it does not. This survey asks residents if they are satisfied with local health care services (i.e. hospitals and doctors).

MAP 15: Satisfaction with health care facilities in the city



Health care in the city

Health care services, doctors and hospitals in my city: total satisfied (%)

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

37. Source: Eurostat, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing).

Across all cities, 7 out of 10 residents (70%, both in EU and non-EU cities) are satisfied with local health care services, although there are big differences between cities. For example, almost 9 out of 10 residents in western EU cities (86%) are satisfied compared to only five out of ten residents in eastern EU (54%) (Map 15). Outside the EU, satisfaction is highest in cities in the EFTA area and the UK (82%) and lowest in cities in the Western Balkans and Turkey (53%).

Czech cities present particularly high satisfaction levels: Prague (86%) and Ostrava (84%) – especially when compared to the average eastern EU cities (54%). Italy's Verona (83%) and Bologna (82%) have satisfaction rates well above the average of southern EU cities (63%).

At 64%, people living in capital cities are less satisfied with health care provision than those living in non-capital cities (74%).

Most countries with at least two cities in the survey have only a small difference between their best and worst scores. The only exception is Italy which has a gap of 45 pp between Verona (83%) and Palermo (38%).

Across all cities, satisfaction is highest in Zurich (CH, 94%), closely followed by Groningen (NL, 93%). In all the top 10 cities, satisfaction rates are higher than 88%. At the other end of the spectrum, in cities in the bottom 10, less than 5 out of 10 people are satisfied with the health care services available in their city. In particular, Athens (EL, 35%), Skopje (MK, 35%) and Palermo (IT, 38%) have the three lowest levels of satisfaction (Table 21).

For the 52 cities for which a comparison with 2015 data can be done, the largest increase can be observed in Tallinn (EE, 60%, + 5pp). Conversely, the largest decreases are observed in Leipzig (DE, 84%, -6 pp) and Dortmund (DE, 83%, -5 pp), although the two cities still score well above the overall average.

While cities at the top did not experience significant changes between 2015 and 2019, some of those at the bottom report higher satisfaction rates in 2019, as is the case of Warsaw (PL, 41%) and Burgas (BG, 45%) both with an increase of 4 pp between the two years.

TABLE 21: People satisfied with health care services in the city, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Zurich (CH)	94%
Groningen (NL)	93%
Antwerp (BE)	92%
Munich (DE)	92%
Graz (AT)	92%
Geneva (CH)	91%
Amsterdam (NL)	91%
Rotterdam (NL)	90%
Oslo (NO)	89%
Bordeaux (FR)	89%

Bottom 10 (lowest score first)	
City	Score
Skopje (MK)	35%
Athens (EL)	35%
Palermo (IT)	38%
Warsaw (PL)	41%
Belgrade (RS)	41%
Budapest (HU)	41%
Miskolc (HU)	41%
Bucharest (RO)	44%
Burgas (BG)	45%
Naples (IT)	45%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

CHAPTER 6: HEALTHY CITIES

Although air quality has improved over the last decade, air pollution in many European cities exceeds EU air quality standards. Air pollution has a significant impact on people's health. During peaks of ozone and particulate matter (PM), people are encouraged to avoid strenuous activity to protect their health. In addition, long-term exposure to air pollution can have a big impact. In 2016, exposure to $PM_{2.5}$ is estimated to have resulted in over 400 000 premature deaths (EEA 2019).

Noise pollution is also linked to health problems. An estimated 50 million people in urban areas in Europe are exposed to excessively high levels of traffic noise at night, which may interfere with their sleep[38]. According to the World Health Organization, long-term exposure to such levels can trigger elevated blood pressure and heart attacks.

The elderly, children and those in poor health are more vulnerable to environmental health hazards than the general population (EEA 2018). In addition, lower socio-economic status groups (the unemployed, those on low incomes or with lower levels of education) also tend to be more negatively affected by environmental health hazards due to their higher exposure and vulnerability, especially in urban areas.

The cleanliness of a city affects its appeal and reputation for both residents and visitors. It is also likely to affect residents' satisfaction with public spaces, their perception of the quality of public services, and their overall satisfaction with the city they live in.

This chapter presents results on residents' satisfaction concerning the air quality, noise and cleanliness of their city and how this has changed over time.

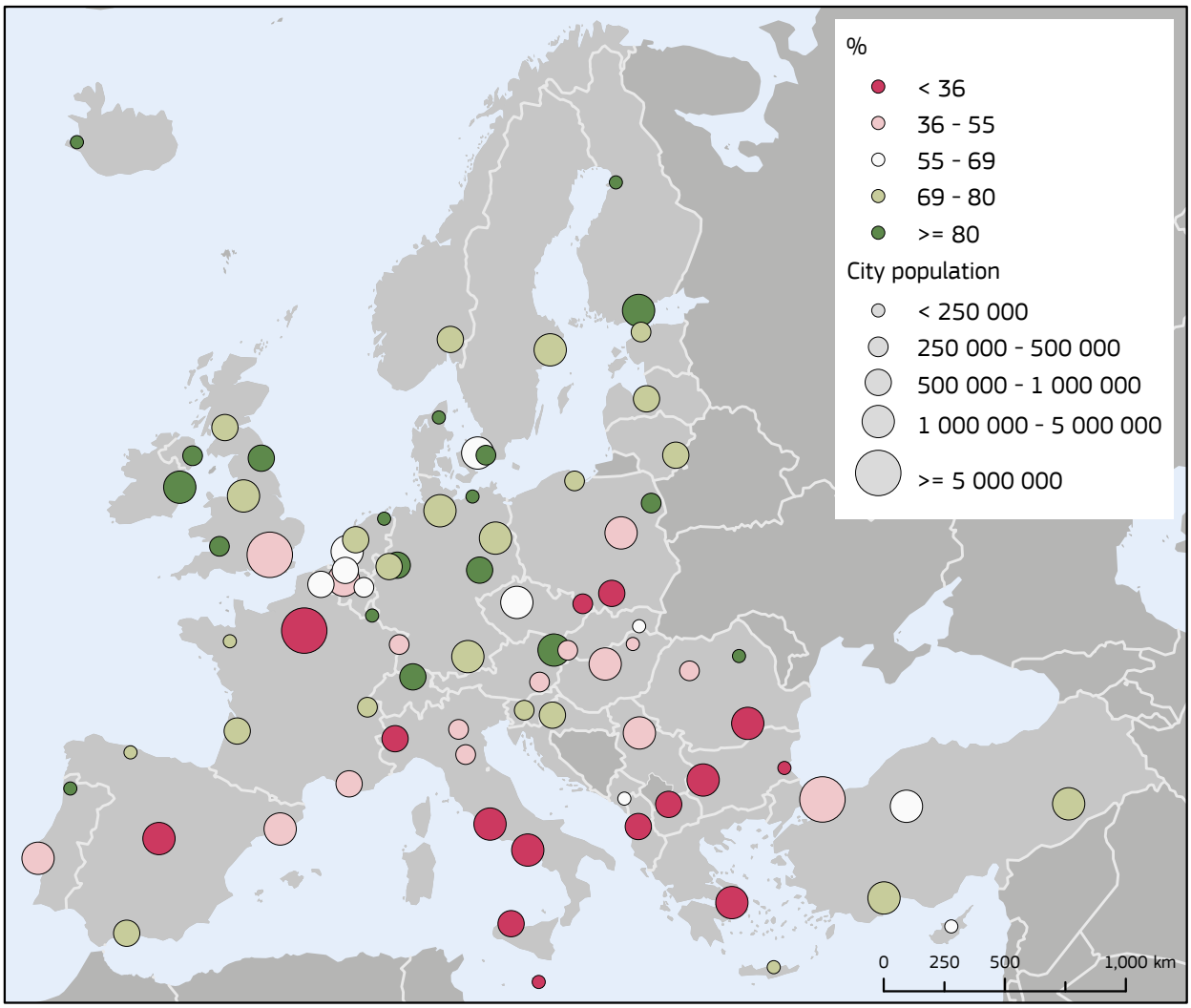
More residents are concerned about air quality in southern and eastern EU cities

Concerns about air quality are more prominent in cities in southern and eastern EU (Map 16). In southern and eastern EU cities, only half the residents (49% and 52%, respectively) are satisfied with air quality compared to an overall average of 62%. For the group of cities in the Western Balkans and Turkey, the average is 51%.

Satisfaction with air quality is lower in capital cities than in other cities. Only 57% of capital city residents are satisfied compared to 66% in the other cities. Residents in larger cities are more worried about the quality of the air. On average, 71% of people living in cities with less than 250 000 inhabitants are satisfied compared to 62% for cities between 250 000 and 1 million and 58% for cities with 1 to 5 million inhabitants.

38. https://ec.europa.eu/environment/basics/health-wellbeing/noise/index_en.htm

MAP 16: Satisfaction with air quality in the city



Air quality in the city

Quality of the air in the city: total satisfied (%)

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Satisfaction with air quality varies a lot between cities, with a difference of 80 pp between the city with the highest and lowest satisfaction (Table 22). Residents form Zurich (CH) report the highest satisfaction with air quality (at 93%), against 13% for residents living in Skopje (MK). At the top, next to Zurich (CH), more than 85% of residents are satisfied in Oulu and Helsinki (both FI), Aalborg (DK) and Białystok (PL). At the bottom, there are a number of capital cities, such as Skopje (MK), Bucharest (RO), Sofia (BG), Tirana (AL), Athens (EL), Paris (FR) and Rome (IT), confirming the trend that people in capital cities are less satisfied with air quality than in other cities (Table 22).

In some countries, the difference between the cities is large. For example, in Poland, the difference between Białystok (88%) and Cracow (18%) is 70 pp; in Romania, there are 64 pp between Piatra Neamț (84%) and Bucharest (20%); in France, there are 49 pp between Rennes (79%) and Paris (30%); and in Spain, 44 pp between Oviedo (77%) and Madrid (33%).

Compared to the 2015 survey, the cities with the biggest increase in satisfied citizens as regards air quality are Lisbon (PT, +5 pp), Košice (SK, +4 pp), Málaga, (ES, +3 pp) and Graz, (AT, +3 pp). The cities where satisfaction concerning air quality has declined the most compared to the 2015 edition are Rostock, (DE, -10 pp), Groningen (NL, -9 pp) and Reykjavík (IS, -6 pp).

TABLE 22: People satisfied with the quality of the air in the city, top and bottom 10 scores

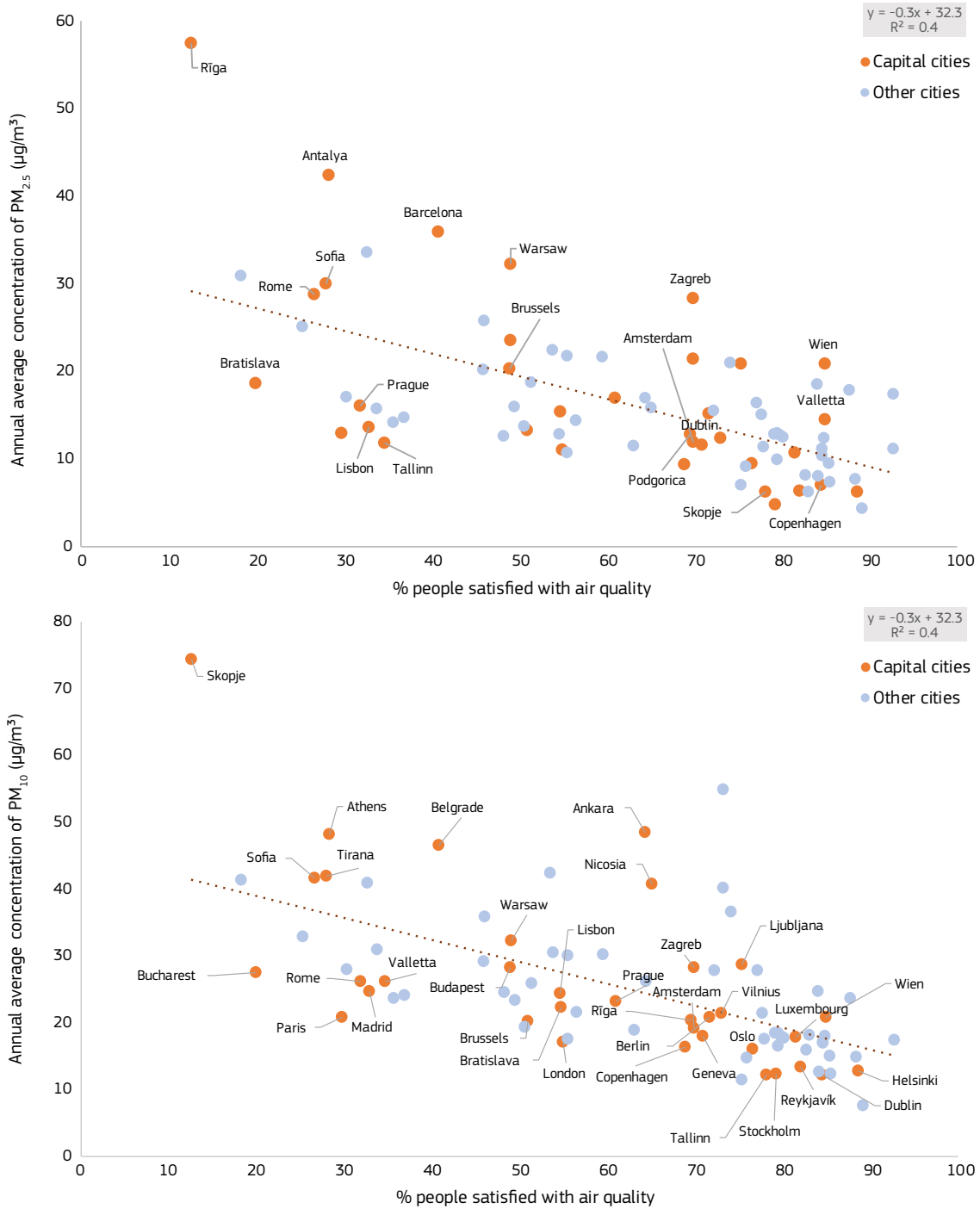
Top 10 (highest score first)	
City	Score
Zurich (CH)	93%
Oulu (FI)	89%
Helsinki (FI)	89%
Aalborg (DK)	88%
Białystok (PL)	88%
Tyneside conurbation (UK)	85%
Cardiff (UK)	85%
Vienna (AT)	85%
Leipzig (DE)	85%
Groningen (NL)	85%

Bottom 10 (lowest score first)	
City	Score
Skopje (MK)	13%
Cracow (PL)	18%
Bucharest (RO)	20%
Ostrava (CZ)	25%
Sofia (BG)	27%
Tirana (AL)	28%
Athens (EL)	28%
Paris (FR)	30%
Burgas (BG)	30%
Rome (IT)	32%

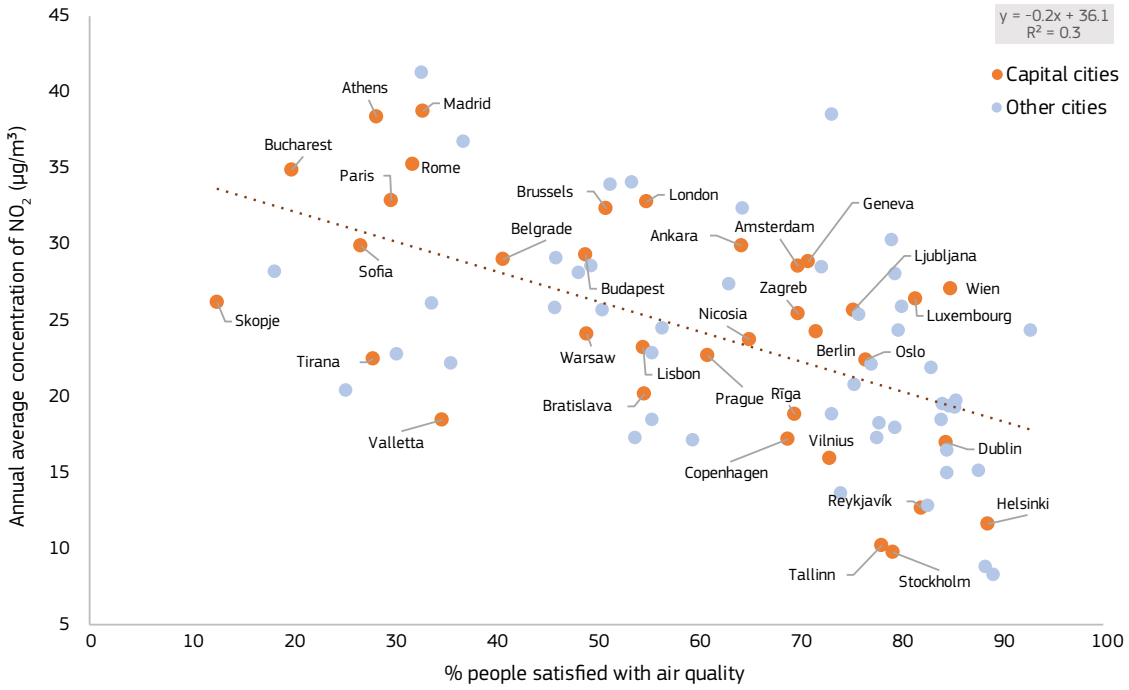
Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

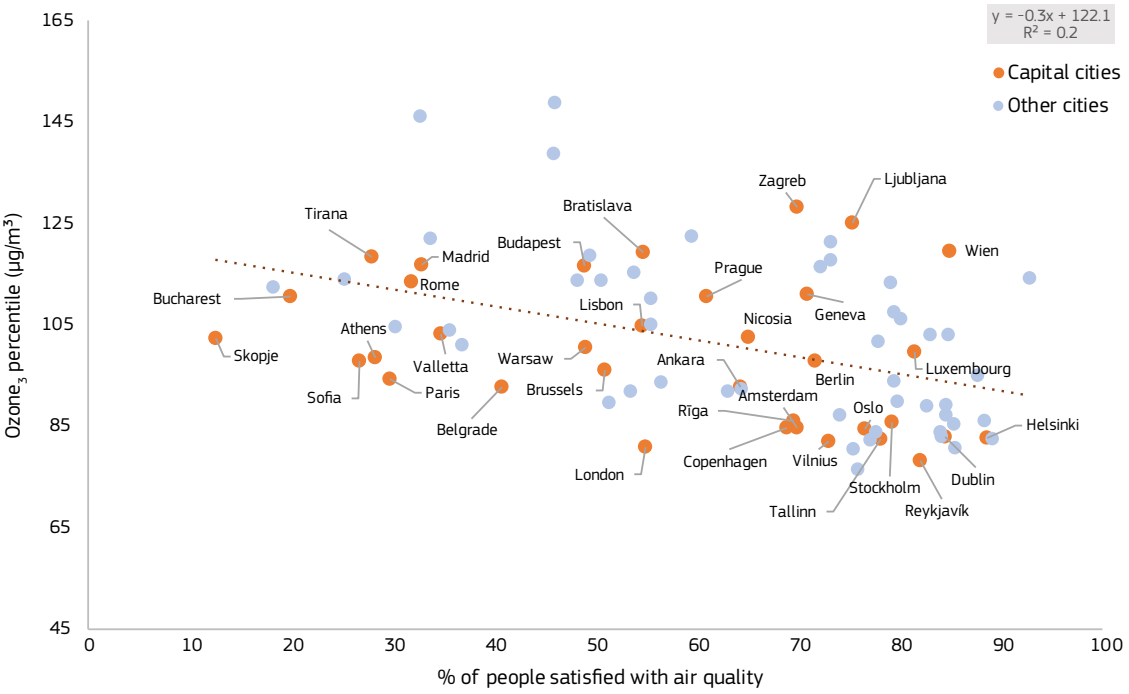
People tend to be less satisfied with air quality in cities with a high level of air pollution (Figure 28)[39]. All the correlations observed are negative, indicating that the perception of residents as regards air pollution tends to reflect the concentrations of air pollutants in cities. In particular, the strongest correlation is observed between the percentage of residents satisfied with air quality in their city and $PM_{2.5}$ annual concentrations (R^2 = 0.4), and with PM_{10} concentrations (R^2 = 0.4), while a less visible linear relation is seen with the ozone indicator (R^2 = 0.2).

FIGURE 28: Scatterplots of air quality satisfaction as against population-weighted annual average of air-pollution indicators: $PM_{2.5}$, PM_{10}, NO_2, and O_3



39. The four air-pollution indicators considered here are the annual average concentrations of nitrogen dioxide (NO_2); concentrations of PM with a diameter between 2.5 and 10 micrometres (µm) (PM_{10}), and with a diameter of 2.5 µm or less ($PM_{2.5}$); and the 93.2 percentile of the maximum daily 8-hour mean ozone concentration indicator, which is directly related to the target value for O_3, as exceedances of the target value threshold of 120 µg/m³ are allowed for 25 days per year (source: European Environmental Agency (EEA)).





Source: EC/DG REGIO Quality of life in European cities survey, 2019; DG REGIO and JRC elaborations based on European Environment Agency (EEA) air-quality grid data, derived primarily from AirBase background station monitoring data, a few European Monitoring and Evaluation Programme (EMEP) station monitoring data, supplemented with altitude, meteorological European Centre for Medium-Range Weather Forecasts (ECMWF) data and EMEP concentration modelling data.
Note: Percentages are based on all respondents (excluding don't know/not answered). As air-quality indicators are calculated as population-weighted averages of modelled grid data, the above values differ from the official air-quality data reported to the EEA and the Commission.

Based on linear regression, which keeps everything else constant, PM_{10} and $PM_{2.5}$ and NO_2 are linked to the biggest reduction in satisfaction with air quality, while ozone concentrations do not seem to influence citizens' perceptions of air quality[40].

Large cities are louder, according to their residents

On average, two out of three residents are satisfied with the level of noise in the city (65%). Satisfaction is lower in cities in southern (52%) and eastern EU (58%), and in the Western Balkans and Turkey (51%).

As with air quality, satisfaction with noise levels is higher in non-capital (68%) than in capital cities (61%), with the exception of cities in Italy, Spain and Turkey. The larger the city, the lower the share of residents who are satisfied with the noise level. This is well above the overall average in cities with less than 250 000 inhabitants (71%) and drops as the size increases to 58% in cities with between 1 and 5 million inhabitants, and 53% for the three cities with more than 5 million inhabitants.

Across all cities in the survey, satisfaction with noise level ranges between 31% in Bucharest (RO) and 88% in Oulu (FI). The cities in the top 10 are all in northern Europe. In Malmö (SE), Dublin (IE) and Aalborg (DK), 86% of the residents are satisfied with the noise level. In the bottom 10, Bucharest (RO), Palermo (IT) and Athens (EL) have less than 35% of satisfied people (Table 23).

When comparing these results with those of the 2015 edition of the survey, the cities with the highest increase in noise-level satisfaction are Lisbon (PT, +6 pp), Burgas (BG[41], +4 pp), Dortmund (DE, +4 pp) and Cracow (PL, +4 pp). Cities where the share of satisfied citizens has decreased compared to the previous edition are Cardiff (UK, -6 pp), Groningen (NL, -4 pp), Oslo (NO, -4 pp), Rīga (LV, -4 pp) and Ljubljana (SI, -4 pp).

TABLE 23: People satisfied with the noise level in the city, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Oulu (FI)	88%
Malmö (SE)	86%
Dublin (IE)	86%
Aalborg (DK)	86%
Tyneside conurbation (UK)	85%
Glasgow (UK)	85%
Belfast (UK)	85%
Rostock (DE)	85%
Manchester (UK)	83%
Helsinki (FI)	82%

Bottom 10 (lowest score first)	
City	Score
Bucharest (RO)	31%
Palermo (IT)	32%
Athens (EL)	33%
Istanbul (TR)	35%
Sofia (BG)	38%
Skopje (MK)	42%
Naples (IT)	42%
Barcelona (ES)	43%
Tirana (AL)	45%
Valletta (MT)	45%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

40. Regression analyses have been performed with annual average concentrations of PM_{10}, $PM_{2.5}$, O_3 and NO_2, controlling for gender, age, household composition, education, working status and residence in the respondents' capital cities.
41. Comparability across the 2015 and 2019 surveys is affected by a variation, purely statistical, in the size of Burgas, which was slightly larger in 2019 than in 2015.

Intra-country variations are also visible, in particular in Romania, where the percentage of positive responses in Piatra Neamț (77 %) is 46 pp higher than in the capital Bucharest, at 31 % (Figure 29).

FIGURE 29: People satisfied with noise levels in the city, by city

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).

Smaller cities are cleaner, according to their residents

On average, 6 out of 10 city residents are satisfied with the cleanliness of the city where they live (62%). Satisfaction is below the overall average in cities in southern EU (47%), and in the Western Balkans and Turkey (54%). On average, capital cities have fewer satisfied residents (57%) compared to non-capital cities (62%). Satisfaction also decreases with city size, as it did for air quality and noise. While around 70% of people are satisfied in cities with less than 250 000 inhabitants, the share drops to 55% in cities with between 1 and 5 million inhabitants, and to 57% in cities with more than 5 million inhabitants.

People satisfied with the cleanliness of the city varies widely, from more than 90% in Luxembourg (LU, 94%) to less than 10% in Palermo and Rome (both IT, 8%) (Table 24). At the top, next to Luxembourg, more than 90% of people are satisfied in Oviedo (ES, 93%) and Białystok (PL, 92%). Other than Luxembourg (LU), Vienna (AT) and Ljubljana (SI) are the only capital cities in the top 10. At the bottom, in the Italian cities of Rome and Palermo, less than 1 in 10 residents are satisfied. In several capital cities, only a low share of residents are satisfied with cleanliness: Athens (EL, 30%), Bratislava (SK, 31%), Sofia (BG, 34%), Belgrade (RS, 37%) and Bucharest (RO, 37%).

TABLE 24: People satisfied with cleanliness in the city, top and bottom 10 scores

Top 10 (highest score first)	
City	Score
Luxembourg (LU)	94%
Oviedo (ES)	93%
Białystok (PL)	92%
Zurich (CH)	90%
Munich (DE)	87%
Vienna (AT)	87%
Ljubljana (SI)	86%
Oulu (FI)	86%
Piatra Neamț (RO)	83%
Groningen (NL)	82%

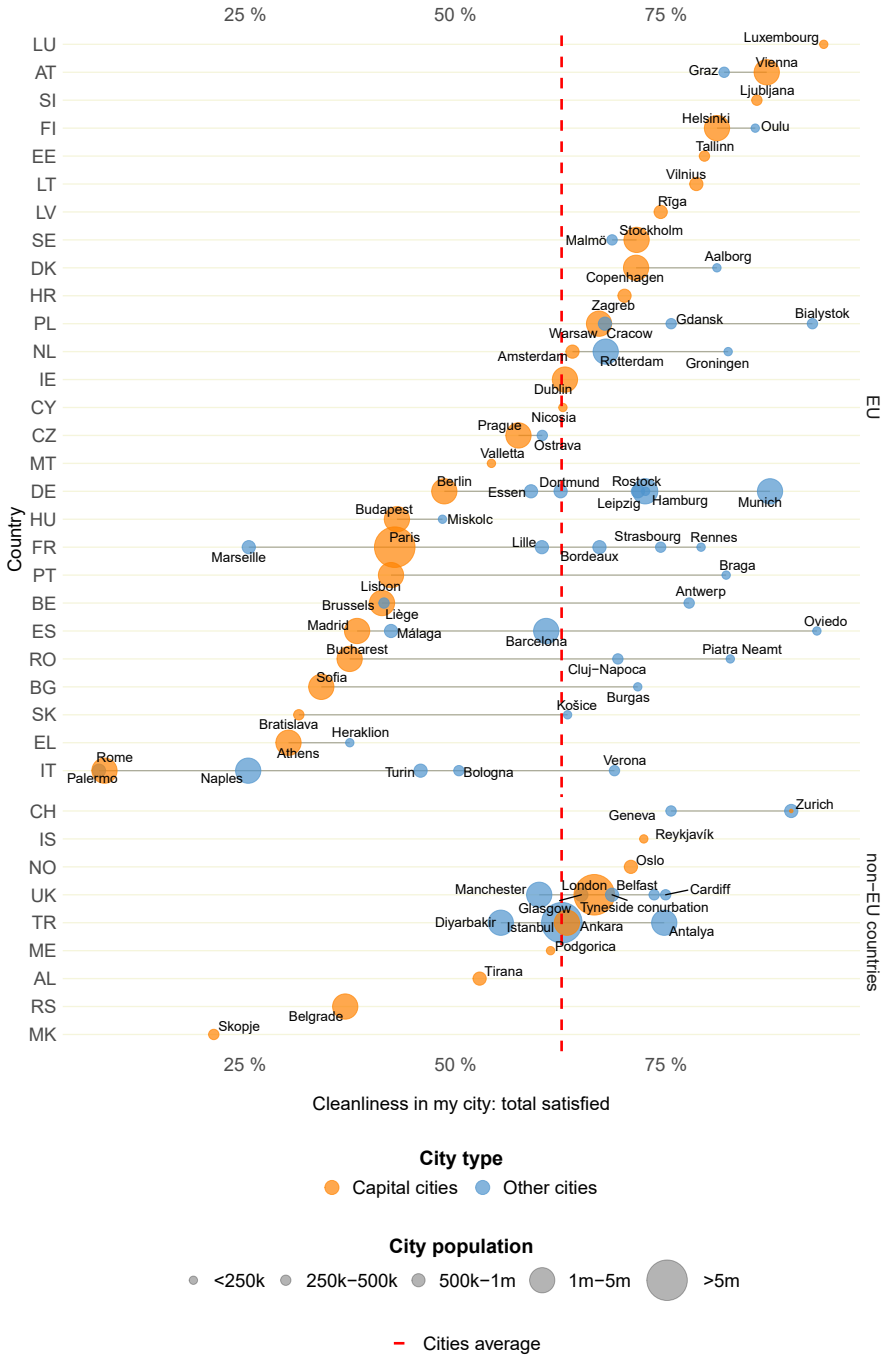
Bottom 10 (lowest score first)	
City	Score
Palermo (IT)	8%
Rome (IT)	8%
Skopje (MK)	21%
Naples (IT)	25%
Marseille (FR)	25%
Athens (EL)	30%
Bratislava (SK)	31%
Sofia (BG)	34%
Belgrade (RS)	37%
Bucharest (RO)	37%

Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered); numbers are rounded to the unit to improve readability and reduce misinterpretation of rankings due to small differences caused by statistical uncertainty.

Once again, a large within-country variation is visible, especially in Italy, France and Spain (Figure 30). In Italy, there is a difference of 61 pp between the cities of Verona (69%) and Palermo (8%); in France, more than 50 pp separates the cities of Rennes (79%) and Marseille (25%); and in Spain, there is a difference of 55 pp between the cities of Oviedo (93%) and Madrid (38%).

Compared with the results of the 2015 survey, the largest increase in satisfaction (around 5 pp) can be observed in Košice (SK), Lisbon (PT), Málaga (ES), Sofia (BG), Cracow and Gdańsk (PL). On the other hand, Rīga (LV, -7 pp), Brussels (BE, -5 pp) and Zagreb (HR, -5 pp) experienced the largest drop in the share of satisfied residents.

FIGURE 30: People satisfied with cleanliness in the city, by city



Source: EC/DG REGIO Quality of life in European cities survey, 2019.
Note: Percentages are based on all respondents (excluding don't know/not answered).