

The background of the cover is a photograph of a city at night, likely Helsinki, with its lights reflecting in a body of water. The reflection is clear and detailed. In the center of the cover, there is a circular inset that provides a closer, more focused view of the reflection of a building and its lights in the water.

# The State of Helsinki Region **2009**

## European Comparisons

## The State of Helsinki Region 2009 – European Comparisons

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# To the Reader



**T**he Helsinki Region is a growing Metropolitan Area, with a population of 1.3 million, on the shore of the Baltic Sea. The region is characterised by its highly educated population, high standard of living, diverse services and highly specialised economic life.

In addition to the region's own know-how and economic life, the development of the Helsinki Region is sparked by its close connections to other metropolises. Geographically, the nearest of these are St. Petersburg in the east, Tallinn in the south and Stockholm in the west. The Baltic Sea also connects the Helsinki Region to many other Northern European metropolitan regions. The Helsinki Region is an international traffic junction and a gateway to culture and tourism in other parts of Finland.

The inhabitants of the Helsinki Region feel their area of residence safe and value their life both in their immediate surroundings and in the area in general. The

well-being and prosperity are counterbalanced by the high cost of living and the uneven distribution of wealth casting their shadows on the region. However, the differences between residential areas are very small compared to many other European metropolises.

The first chapter of this publication anchors the state and development of the Helsinki Region to the mutual comparison between European capital city regions. The main source of this information is the Urban Audit database, published by the Statistical Office of the European Commission Eurostat. It is a compilation of a large amount of basic statistics, indicators derived from them, as well as time series on both city and regional levels. Regular production of city statistics on the European level is a challenge, reflected in the varying availability of information, which has affected the contents of this publication. All comparisons could not be carried out on the regional level, and it

has been necessary to change areas of comparison when moving from one theme or indicator to another.

The second part of the publication concentrates on the three natural elements, earth, water and air. Along with the elemental theme, it studies – among other things – the characteristics of the soil and waters of the Helsinki Region: rocks rounded by the Ice Age and the fragmented shoreline with its islands and islets. The quality of air and water and the concern for their future bring their own nuances to the study.

*The State of Helsinki Region 2009* publication is produced and designed in cooperation with the Cities of Espoo, Helsinki and Vantaa, the Helsinki Metropolitan Area Council (YTV) and the Uusimaa Regional Council. The publication is edited and compiled by the Unit for Statistics and Information Services of the City of Helsinki Urban Facts. We would like to extend a warm thank to all of you.



*Helsinki, May 2009*

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# Helsinki Region in brief

**T**he Helsinki Region is a part of Uusimaa Region, which is comprised of 24 municipalities in southern Finland. The centre of Uusimaa Region is Helsinki, the capital of Finland, which is surrounded by an area of approx. one million inhabitants. Besides Helsinki, the Helsinki Metropolitan Area includes the cities of Espoo, Kauniainen and Vantaa. Other municipalities in the rest of Helsinki Region are Hyvinkää, Järvenpää, Kirkkonummi, Kerava, Mäntsälä, Nurmijärvi, Pornainen, Sipoo, Tuusula and Vihti.

Some of the municipalities in the Helsinki Region are located by the Baltic Sea. The Baltic Sea is surrounded by nine countries, which in total have a population of nearly 300 million inhabitants. Throughout its history, the Baltic Sea has brought together the countries and nations in the coastal area. The enlargement of the European Community has further increased col-

laboration and contact between the Baltic Sea countries.

The Helsinki Region accounts for about 25 percent of Finland's population, almost 30 percent of the labour force, about one third of the productivity and more than 40 percent of the investments in research and development. The level of investments in research and development is quite high in Helsinki – 4.4 percent of the gross domestic product. The respective value in Finland is 3.5 percent, which overruns EU's three percent objective. The economics have grown in the Helsinki Region more rapidly than in the rest of the country and are on a high level compared with the whole of the European Union. The level of productivity of the Helsinki Region was twice as high as the average of EU27 countries in 2006. In Finland as a whole, the productivity stands 17 percent over the average of EU.



The Helsinki Region, as the rest of Finland, was a part of the Swedish Kingdom until 1809.

In 1809, Finland became a true autonomous Grand Duchy as a part of the Russian Empire. On 6th December 1917, Finland was declared independent.

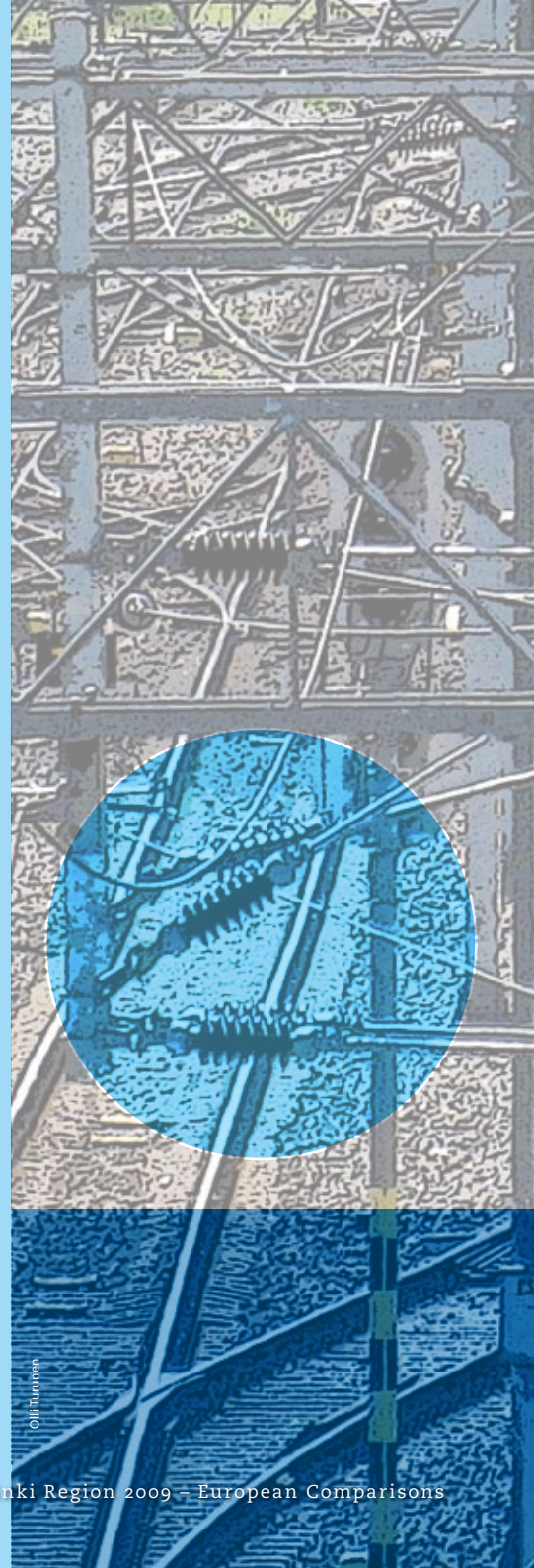
Helsinki and Tallinn, on the opposing side of the Gulf of Finland, are neighbouring cities. Finland and Estonia share a history of Russian rule, for instance.

The Baltic Sea has served as an essential transport route since the times of the Hanseatic League.

## Basic information on the Helsinki Region

	<i>Helsinki Region</i>	<i>Helsinki Metro- politan Area</i>	<i>Rest of Helsinki Region</i>
<b>Population structure, 2009</b>			
■ Total population	1,320,220	1,022,139	298,081
■ % of Finnish population	24.8	19.2	5.6
■ Land area km <sup>2</sup>	3,697.0	769.5	2,927.5
■ Sea area km <sup>2</sup>	1,678.0	699.7	978.4
■ Population density inh./km <sup>2</sup>	357.1	1,328.3	101.8
<b>Age groups, % of total population</b>			
■ 0–14	17.1	16.1	20.8
■ 15–64	70.2	71.1	67.3
■ 65+	12.6	12.8	11.9
■ Swedish-speaking, % of population	6.1	6.3	5.5
■ Foreign languages, % of population	7.5	8.9	2.6
<b>Population changes per 1,000 inhabitants, 2007</b>			
■ Births	12.3	12.3	12.6
■ Deaths	7.0	7.2	6.3
■ Net migration	6.0	4.7	10.4
<b>Tertiary education</b>			
■ % of 15 years olds and older	34.2	35.4	29.7
<b>Housing, 2007</b>			
■ Houses, % of total dwellings	31.9	23.9	63.5
■ Average price of used dwelling, euro/m <sup>2</sup>	..	2,970	1,882
■ Housing density m <sup>2</sup> /person	35.4	34.7	37.8
<b>Economic aspects, 2006,2008</b>			
■ Employment rate (2008)	76.1	75.7	76.2
■ Unemployment rate (2008)	5.3	5.6	4.3
■ Jobs	683,245	589,755	93,490
■ Jobs, % of Finnish jobs	29.5	25.5	4.0
■ Enterprises	74,355	59,148	15,207
■ % of Finnish enterprises	26.6	21.2	5.4

Source: Statistics Finland, MLI

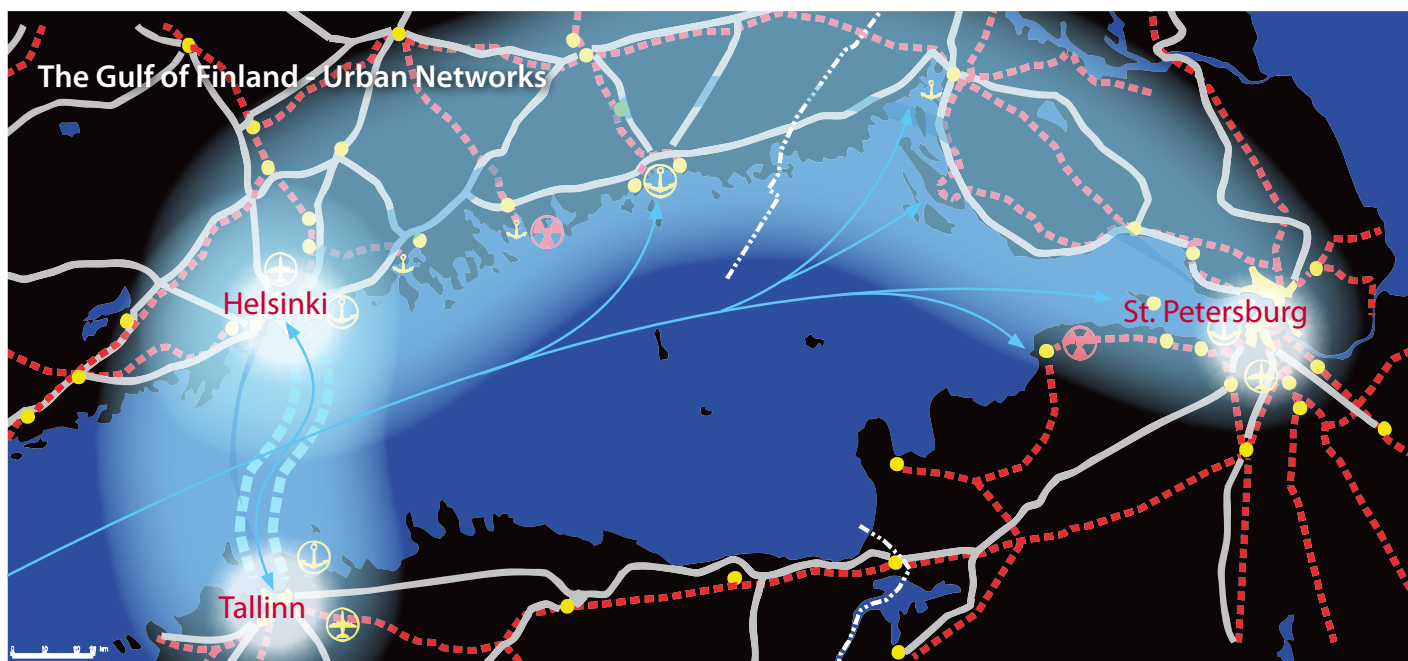






# Innovative developments and international comparisons





## Developments before, now and in the future

### Creative industries create immaterial value

In the immediate past, the economic growth in Helsinki and in the whole of the Helsinki Region has relied on development of the information and communication technology cluster. A more versatile economic structure and new, strong industry sectors are needed to complete those growing sectors.

Investments on research and development and the number of patents granted signal that the focus is on developing new technology, systems and ideas and upgrading them into real products. Described with these indicators, the investments in the Helsinki Region are top class at least on an European level. In the European Union coun-

tries, an average of 1.9 per cent of the gross domestic product was used for research and development in 2006, whereas in the Helsinki Region the figure was 4.4 per cent.

With creative industries the Ministry of Employment and the Economy means business activities that provide immaterial value, such as copyrights, patents or trademarks. The Helsinki Region is among Europe's top regions in granting patents, as well. In the European Competitiveness Index 2006 - 2007, a survey on European metropolises' competitiveness, compiled by the Robert Huggins associates research institute, Helsinki was ranked seventh in terms of the relative amount of patents granted.

### Developing entrepreneurship in traditional and creative industries

In the Helsinki Region, companies equipped with creative competence and capacity for rapid growth could be the key to new and better jobs, productivity growth and management of structural change in economics. Creative competence may create new, independent business activity, which in turn may help other industries improve their products and services.

According to Curtis Carlson, an innovation expert in Silicon Valley, innovation is something that brings additional value to the customer and produces profit to the company. "An idea or a product is an innovation only if someone uses it and finds it



useful. Everyone, mastering the right skills, is capable of creating an innovation.” Collaboration creates innovation. Prerequisites for collaboration develop in a fertile innovation environment.

Generally innovation environment means, for instance, functional labour market and research and education system. The location of the innovation environment is crucial, since an innovating company is in many ways involved with both the international, national and local environment. The emergence of innovation networks requires various actors to work closely together. Confidence develops from immediate and intensive interaction. Local knowledge centres help companies and research communities searching for new opportunities find each other and create new innovation communities.

### Higher education and other institutes where innovations and growth entrepreneurship emerge

Helsinki Region has been positioned to be one of the international knowledge hubs together with cities like Amsterdam, Barcelona, Copenhagen, Dublin, London, Milan, Munich and Stockholm in European Union’s Regional Policy Department’s study report “State of European Cities”.

During their history, universities have acted as powerful actors in developing cities and in creating international networks. Kumpula, Meilahti, Viikki and the City Centre campuses of the University of Helsinki are part of the competitive advantage of the Helsinki Metropolitan Area. It is important that the role of higher education as a fountain of innovation and growth entre-

preneurship will be further developed in the future, as well.

Arabia campus, too, is internationally interesting. Versatile education, traditions and an interesting environment have made the campus world-famous. In the campus you can study e.g. media and motion picture, television and production design. There are also institutes that emphasise the connection with working life and regional development.

Arabia campus area is also a pioneer in developing user-oriented living in Finland. Over 20 different development projects have been created in collaboration with the companies in the area, and at the same time a residential area of 5,000 inhabitants has been built. Arabianranta area is also a founding member of the European Network of Living Labs network that promotes development of user-oriented living.

Innovation activity and growth entrepreneurship in the Helsinki Region will soon get extra boost: Aalto University that combines the University of Art and Design Helsinki, Helsinki University of Technology and Helsinki School of Economics will provide studies on skills required in the innovation economy.

Helsinki Region’s vision is to be and develop as a dynamic, global business and innovation centre based on the force of science, arts, creativity and expertise, where the success of Helsinki Region will bring welfare to the inhabitants in the area and in the whole country. The targets describe quite well the central aims to produce high quality welfare services, to develop infrastructure, housing and city planning and to ensure competitiveness.

**Table 1.1.1 Proportion of research and development costs of the region’s GDP, 10 leading regions**

Rank	Region	R&D costs, % of GDP
1	Western Sweden	6.3
2	Northern Finland	4.9
3	Eastern Great Britain	4.6
4	Helsinki Region	4.4
5	Stockholm	4.4
6	East Middle Sweden	4.3
7	Southern Sweden	4.2
8	Berlin	4.0
9	Baden-Württemberg	3.9
10	Western Finland	3.6

Source: European Competitiveness Index 2006–2007, Robert Huggins Associates, Statistics Finland

**Table 1.1.2 Patents granted, regional index, 10 leading regions**

Rank	Region	Index
1	Baden-Württemberg	540.8
2	Southern Nederland	497.7
3	Bayern	401.0
4	Switzerland	382.7
5	Southern Sweden	337.3
6	Stockholm	315.7
7	Helsinki Region	295.6
8	Southern Finland	295.6
9	Hessen	277.7
10	Île de France	272.4

Source: European Competitiveness Index 2006–2007, Robert Huggins Associates, Statistics Finland

# 1.2 Population

## The Helsinki Region has a population of 1.3 million inhabitants

The Helsinki Region is an urban region of 1.3 million inhabitants. The region has developed around the Helsinki Metropolitan Area, which is an area of slightly over one million inhabitants. The population density in the Helsinki Region is low, 357 inhabitants per square kilometre. Among the municipalities in the Helsinki Region, there are both municipalities with a dense urban framework and municipalities where small housing areas are predominant. The most densely populated area in the region is the Helsinki Metropolitan Area and Helsinki, in particular. In the rest of the Helsinki Region, the population density is notably lower than in the Helsinki Metropolitan Area.

More than a quarter of Finland's population lives in the Helsinki Region. According to a population forecast, the population of the Helsinki Region will increase to 1.6 million inhabitants by the year 2040. This means that the population share of the region will represent nearly 30 per cent of the total population in Finland.

It is forecasted that the European Union will have 520 million inhabitants by the year 2040. In the comparison between urban regions of Europe, the Helsinki Region ranks between Oslo and Amsterdam in population. The biggest urban regions are London and Paris with populations of nearly 12 million inhabitants.

Urban regions of Europe have mainly grown. Madrid, Athens and Lisbon have experienced the biggest growth. In urban

Table 1.2.1 Population and population density in the Helsinki Region in 2009

	Population	Finnish	Swedish languages	Other	Population density (inh./km <sup>2</sup> )
Helsinki Region	1,320,220	86.4	6.1	7.5	357.1
Helsinki Metropolitan Area	1,022,139	85.8	6.3	8.9	1,328.3
Rest of Helsinki Region	298,081	91.9	5.5	2.6	101.8
Uusimaa Region	1,408,020	85.4	7.4	7.2	220.2
Finland	5,326,314	90.9	5.4	3.6	17.5

Source: Statistics Finland

Table 1.2.2 Population in urban regions of Europe in 1991, 1996, 2001 and 2004 and the change in 2001–2004

Region	1991	1996	2001	2004	2001–2004 change,%
Amsterdam	..	..	1,411,959	1,443,258	2.2
Athens	3,523,407	..	3,894,573	4,013,368	3.1
Berlin	4,866,047	4,906,861	..	4,971,331	-
Bratislava	606,351	618,904	599,015	601,132	0.4
Brussels	1,695,870	1,714,905	1,750,328	1,800,663	2.9
Bucharest	2,302,992	2,243,634	2,144,442	2,140,194	-0.2
Budapest	2,583,635	2,502,069	2,453,315	2,393,846	-2.4
Copenhagen	1,718,805	1,752,078	1,806,667	1,822,569	0.9
Dublin	..	..	1,535,446	1,534,426	-0.1
Helsinki	1,044,309	1,120,593	1,213,743	1,224,107	0.9
Lefkosia	..	..	273,642	289,100	5.6
Lisbon	2,266,202	2,333,763	2,363,470	2,435,837	3.1
Ljubljana	470,641	486,029	490,148	495,101	1.0
London	11,109,400	11,256,000	11,624,807	11,917,000	2.5
Madrid	..	5,091,336	5,423,384	5,804,829	7.0
Oslo	898,389	928,587	1,058,863	1,090,513	3.0
Paris	..	..	10,952,011	11,089,124	1.3
Prague	..	..	1,941,803	1,964,750	1.2
Riga	1,177,932	1,072,430	1,020,389	1,003,949	-1.6
Rome	..	..	3,374,511	3,457,690	2.5
Sofia	..	..	1,263,807	..	0.0
Stockholm	1,641,669	1,725,756	1,823,210	1,860,872	2.1
Tallinn	604,730	544,736	524,972	521,410	-0.7
Warsaw	2,416,337	2,503,293	2,628,172	2,660,406	1.2
Valletta	..	..	..	370,704	-
Vienna	2,062,969	2,114,054	2,121,704	2,179,769	2.7
Vilnius	767,981	731,183	709,137	709,870	0.1
Zürich	..	..	1,080,728	1,110,478	2.8

Source: Eurostat, Urban Audit, Nordstat-database



regions of Eastern Europe, such as in Budapest and Riga, the population growth has decreased. However, there are very few urban regions with no population growth at all. The Helsinki Region has been among the areas of moderate population growth.

The population age structure varies between the different areas in the Helsinki Region. In the Helsinki Metropolitan Area, the population is more aged than in the rest of the Helsinki region. There are relatively more children aged 15 and under and school children in the rest of the region than in the Helsinki Metropolitan Area. In the Helsinki Metropolitan Area, the proportion of people aged 65 and over out of the total population is relatively higher than in the rest of the region.

Compared to the whole of Finland, there are as much children in the Helsinki Region as there are in the whole country. Instead, the proportion of the elderly is higher outside the Helsinki Region in other parts of the country. The age structure in the Helsinki Region is, however, forecasted to change as the population ages by the year 2040. It is forecasted that the number of children will slightly increase, but the highest growth is expected in the number of people aged 70 and over.

As the population ages in many European Union countries, the same goes for their urban regions. The comparison between urban regions of Europe places the Helsinki Region among the elderly regions. The proportion of people aged 75 and over out of the total population was the highest in the Helsinki Region, but the proportion was high also in Brussels, Amsterdam and Rome. The relative number of the eld-

Figure 1.2.1 Population by age in the Helsinki Region in 2009 and 2040

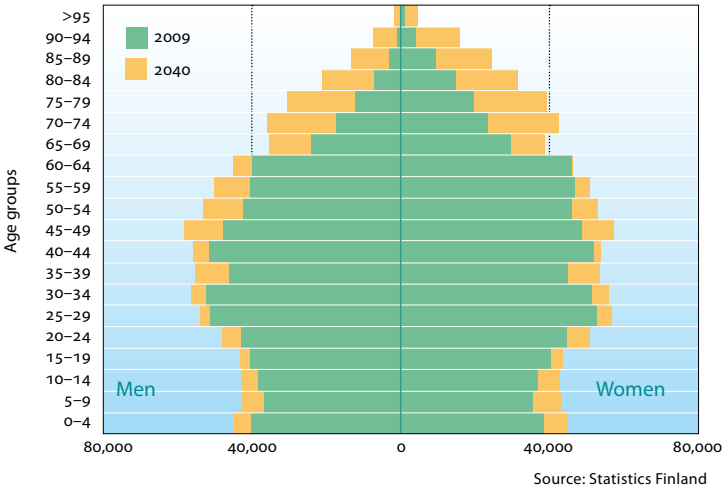


Figure 1.2.2 Age structure of population in the Helsinki Region in 2008

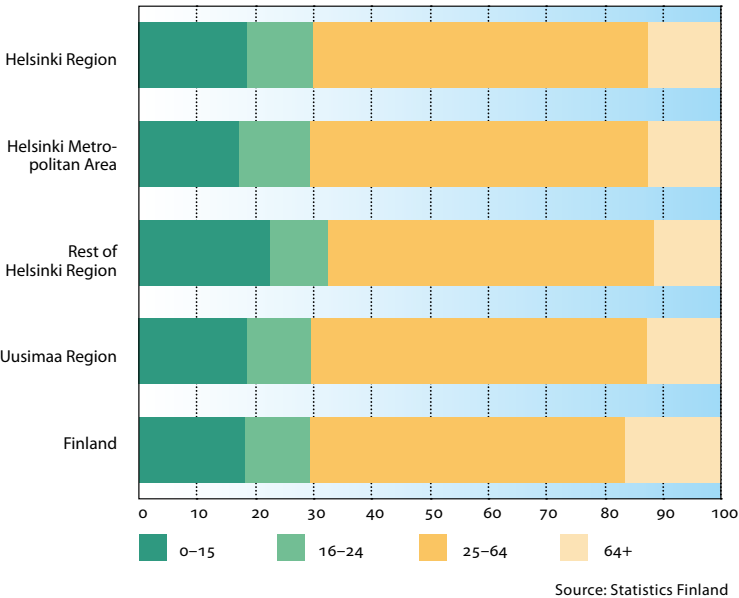


Figure 1.2.3 Proportion of people aged 0–14 years and 75 years and over out of the total population in urban regions of Europe in 2004

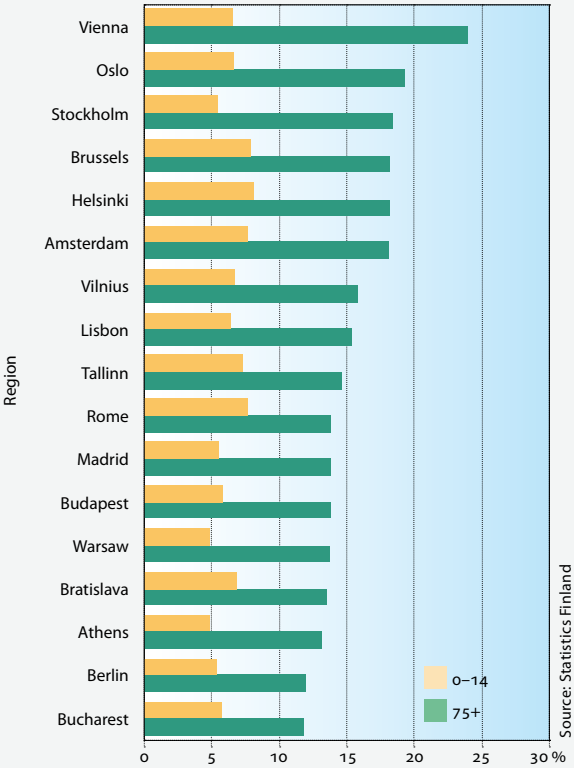


Figure 1.2.4 Population by age groups in urban regions of Europe in 2004

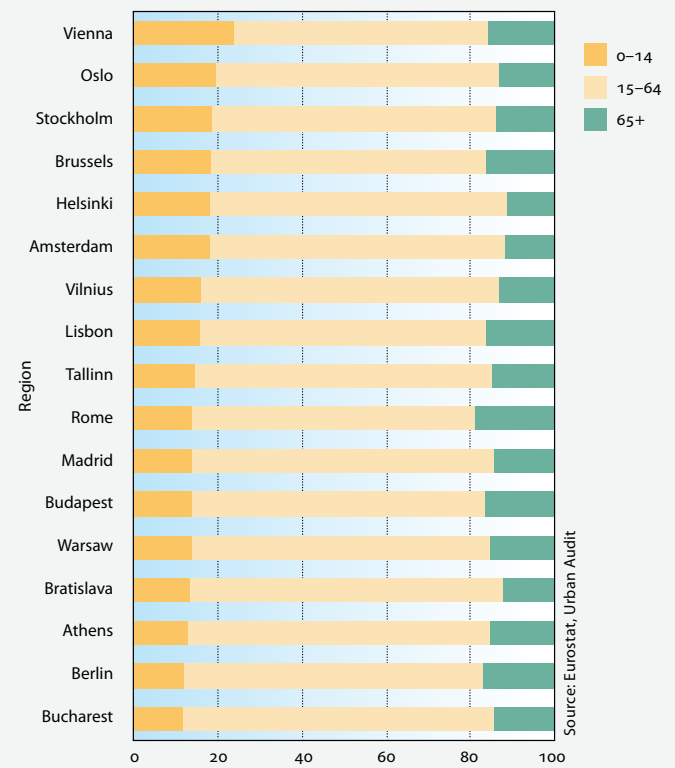


Figure 1.2.5 Proportion of people with a foreign language out of the total population in the Helsinki Region in 1991–2009

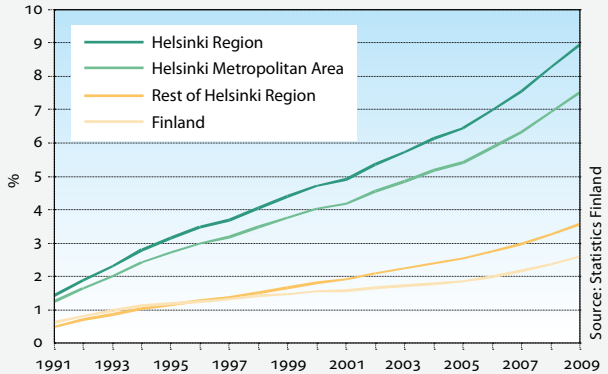


Table 1.2.3 Changes in population in the Helsinki Region in 2007

	Births	Deaths	Net migration	Population change 2001–2008	Change /year
Helsinki Region	15,998	9,116	7,721	82,252	11,750
Helsinki Metropolitan Area	12,306	7,264	4,668	51,863	7,409
Rest of Helsinki Region	3,692	1,852	3,053	30,389	4,341
Uusimaa Region	16,873	9,939	8,240	84,369	12,053
Finland	58,729	49,077	13,586	119,369	17,053

Source: Statistics Finland



erly was the lowest in urban regions of Warsaw and Athens.

The highest proportion of children aged 0–14 years out of the total population was in the urban region of Vienna, where the proportion of children was 24 per cent. The proportion was high also in the areas of Oslo, Amsterdam, Helsinki, Brussels and Stockholm, where the proportion of children out of the total population was about 18–19 per cent. The relative number of children was the lowest in Bucharest and Berlin. The urban regions of Helsinki and Brussels appear to have a very similar age structure. In both regions, the proportion of children out of the total population is high in comparison between the regions, but also the proportion of the elderly is among the highest. The proportion of the working-age people is the highest in urban regions of Eastern Europe, such as in Bratislava and Bucharest, where the proportion of people aged 15–64 years was about 74 per cent. The relative number of the working-aged was the lowest in Vienna.

### Population becomes more international and is highly educated

Finnish is a mother tongue for a majority of people in all municipalities in the Helsinki Region. In Kauniainen and Sipoo, the other official language of Finland, Swedish, is far more common than in the other municipalities in the region. With immigration, the language structure in the Helsinki Region has changed. The number of people speaking a foreign language has increased in the whole region, but even more in the Helsinki Metropolitan Area. In the Helsinki Region,

there are nearly 100,000 people who use other than Finnish or Swedish as their mother tongue. The majority of them lives in the Helsinki Metropolitan Area. 7.5 percent of the inhabitants in the Helsinki Region and nearly 9 percent of those in the Helsinki Metropolitan Area speak a foreign language as their mother tongue in 2009.

The number of foreign citizens is rather low in the Helsinki Region compared to other urban regions of Europe. In 2004, only 4 per cent of the population were foreign citizens, and the majority of them came from outside the European Union. In this comparison, the urban region of Brussels is a complete contrast to the Helsinki Region. In 2004, 16 per cent of the population were foreign citizens, and the majority of them came from the European Union. Also in Vienna and Madrid, the proportion of foreign citizens was over 10 percent of the population, and the majority of them came from outside the European Union.

In the 21st century, the Helsinki Region has grown by approx. 12,000 inhabitants per year. The growth has been based both on increasing fertility and on migration gain. In 2007, the migration gain in the Helsinki Region was 7,700 people, and there were 6,880 more births than deaths. In the Helsinki Region, the Helsinki Metropolitan Area obtained the highest migration gain.

The natural population growth has been negative especially in many urban regions in Eastern Europe, i.e. the number of deaths has been higher than the number of births. The fertility has been low also in urban regions of Southern Europe, but the natural population growth has been positive so far, i.e. the number of births has been higher

**Figure 1.2.6 Proportion on foreign citizens out of the total population in urban regions of Europe in 2004**

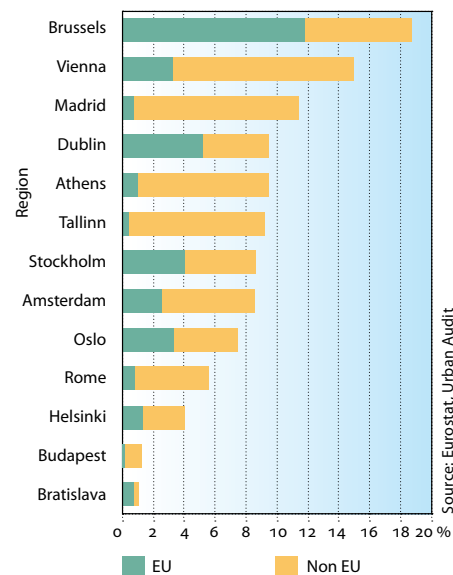


Table 1.2.4 Changes in population in urban regions of Europe in 2004

Region	Births	Deaths	Excess of births
Amsterdam	19,575	10,695	8,880
Athens	38,901	34,182	4,719
Berlin	40,957	46,786	-5,829
Bratislava	5,436	5,663	-227
Brussels	23,621	16,873	6,748
Bucharest	19,117	23,157	-4,040
Budapest	22,835	30,712	-7,877
Copenhagen	23,407	18,818	4,589
Dublin	25,989	9,566	16,423
Helsinki	15,552	8,822	6,730
Lisbon	27,642	22,008	5,634
Ljubljana	4,749	4,051	698
London	167,914	93,731	74,183
Madrid	69,027	40,293	28,734
Oslo	15,710	9,002	6,708
Paris	175,282	68,457	106,825
Riga	9,094	13,025	-3,931
Rome	35,824	32,744	3,080
Stockholm	25,779	15,501	10,278
Tallinn	5,936	6,315	-379
Warsaw	23,049	26,053	-3,004
Vilnius	6,374	7,235	-861

Source: Eurostat, Urban Audit

Table 1.2.6 Population aged 15 and over by the level of education in the Helsinki Region in 2007

	Only basic education	Upper secondary level education	Tertiary level education
Helsinki Region	31.7	34.2	34.2
Helsinki Metropolitan Area	30.9	33.8	35.4
Rest of Helsinki Region	34.8	35.5	29.7
Uusimaa Region	32.4	34.3	33.4
Finland	35.9	38.3	25.8

Source: Statistics Finland



Kartanonkoski, Vantaa.

Table 1.2.5 Households, families and demographic dependency ratio in the Helsinki Region in 2008

	Dwelling households	People living alone, %	Families	Families with children, %	Average size of household persons	Demographic dependence ratio*
Helsinki Region	615,223	41.9	343,437	53.9	2.1	0.42
Helsinki Metropolitan Area	490,592	44.3	260,388	52.7	2.0	0.40
Rest of Helsinki Region	124,631	32.7	83,049	57.8	2.3	0.49
Uusimaa Region	654,995	41.7	367,328	53.7	2.1	0.43
Finland	2,476,505	40.4	1,437,709	52.3	2.1	0.50

\*The demographic dependence ratio is the ratio of under 15 year-olds plus over 64 year-olds to 15–64 year-olds.  
Source: Statistics Finland



than the number of deaths. In the Helsinki Region, as in other urban regions of Central and Northern Europe, the number of births has been notably higher than the number of deaths.

In the Helsinki Region, the average family size was 2.1 in 2008. The average sizes of households were the highest in the rest of the Helsinki Region, where the relative number of families with underage children was also higher than in the Helsinki Metropolitan Area. In the Helsinki Region, 54 percent of all families were families with underage children. The proportion of one person households was the highest in the Helsinki Metropolitan Area and particularly in Helsinki, where almost half of all house-

holds were one person units. In the rest of the Helsinki Region, living alone is far more rare than it is in the Helsinki Metropolitan Area and in Helsinki.

The demographic dependency ratio, that is the ratio of children and the elderly to working-aged people, was worse in the Helsinki Region than in the Helsinki Metropolitan Area. Helsinki had the best dependency ratio in the region.

The level of education in the Helsinki Region is high – 68 per cent of all the inhabitants aged 15 and over have attained post-comprehensive level educational qualifications. In the Helsinki Region, the relative number of people with a higher education degree is higher than elsewhere in

the country. In the Helsinki Metropolitan Area, over 35 per cent of all the inhabitants aged 15 and over have a tertiary level education.

Helsinki ranks high also in the comparison between urban regions of Europe. The population is highly educated also in Amsterdam and in Nordic and Baltic urban regions. The state of the European cities report shows that in urban regions where the level of education is generally low, people with higher education concentrate in the core city. The same comparisons state that in urban regions where the level of education is generally high, people with higher education concentrate in the rest of the region.

Figure 1.2.7 Proportion of one person households of all households in urban regions of Europe in 2004

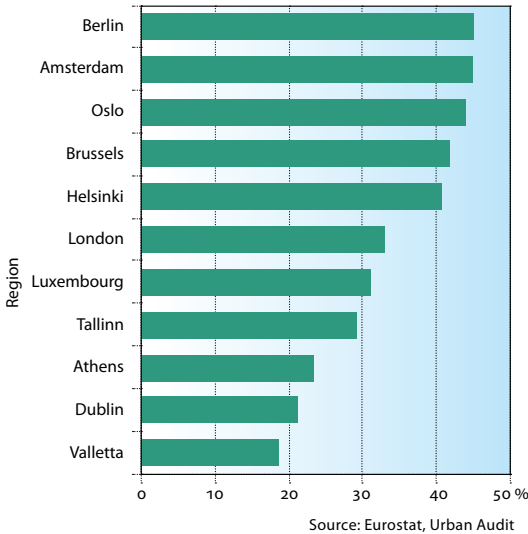
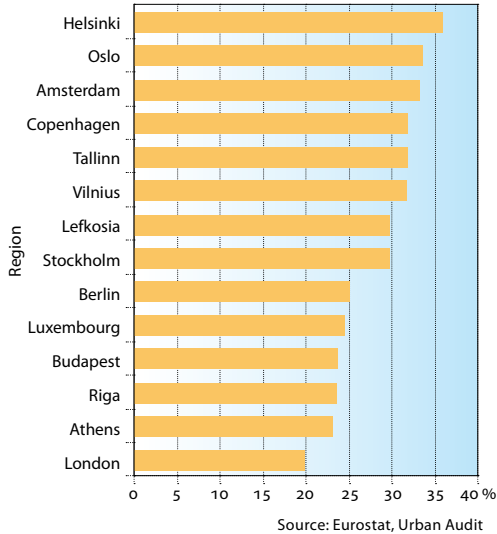


Figure 1.2.8 Proportion of people with a higher education degree of all people aged 15–64 in urban regions of Europe in 2004



# 1.3 Housing

## Metropolises develop around dense city centres

In the Helsinki Region, there are in total 660,000 dwellings and 13,200 holiday homes. The majority of dwellings are located in the capital city and its nearest municipalities, which together form the large urban region. Smaller, dense centres are located by the northern railway. In other parts of the region, settlement is concentrated in population centres or is scattered into smaller communities. Building in the region still strongly concentrates to central areas, and in them to

smaller municipalities in the rest of Helsinki Region where the relative amount of population is smaller. In the early years of the 21st century, the increase in dwelling stock in the Helsinki Region was on an average level compared to other European capitals and metropolitan areas. Between 2001 and 2004, the regions of Riga and Athens increased their dwelling stock by over 20 per cent. The third fastest growth was experienced in the Stockholm Region, and recent Scandinavian statistics show that the region has continued to grow even after 2004.

At an European level, the number of dwellings in the Helsinki Region is at the same level with Amsterdam, Liverpool and Hannover. In Stockholm and Copenhagen, the number of dwellings is 200,000 higher, and the regions of Lisbon, Budapest and Warsaw are metropolises with over a million dwellings. In urban regions of Europe, dwellings are mainly apartments.

Living in an apartment is common also in the Helsinki Region, but the further the city centre is, the more common it is to live in a terraced house or a detached house.

Figure 1.3.1 Population density – total resident population per square km in urban regions of Europe in 2004

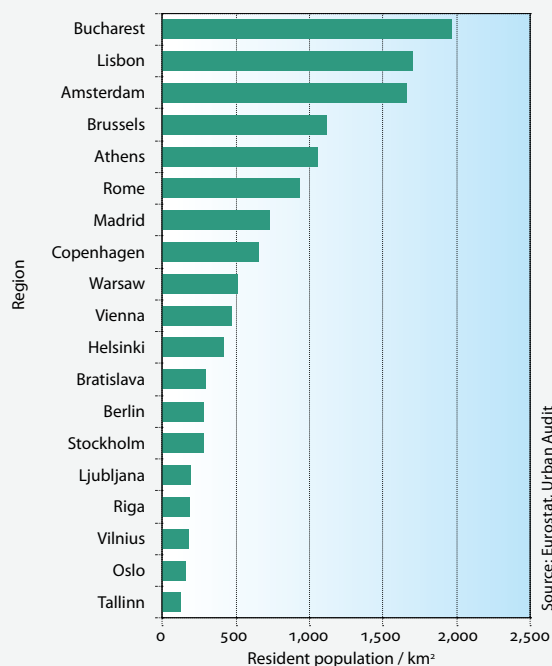


Table 1.3.1 Number of dwellings and their change in urban regions of Europe in 2001 and 2004

Region	Number of dwellings		Change, %
	2001	2004	
Amsterdam	649,000	684,233	5.4
Athens	1,830,375	2,202,193	20.3
Berlin	2,578,646	2,632,400	2.1
Bratislava	242,452	251,644	3.8
Budapest	1,061,771	1,094,656	3.1
Helsinki	590,236	621,115	5.2
Lisbon	1,126,897	1,179,963	4.7
London	4,830,566	5,061,152	4.8
Madrid	2,478,145	2,645,604	6.8
Riga	336,907	435,924	29.4
Stockholm	797,727	896,706	12.4
Tallinn	224,796	228,000	1.4
Warsaw	1,036,068	1,071,770	3.4
Vilnius	260,274	281,509	8.2

Source: Eurostat, Urban Audit

At the same time, household-dwelling unit and family structure change, as well. Typical of urban centres are small dwellings and household-dwelling units; the rest on Helsinki Region, instead, has more families with underage children.

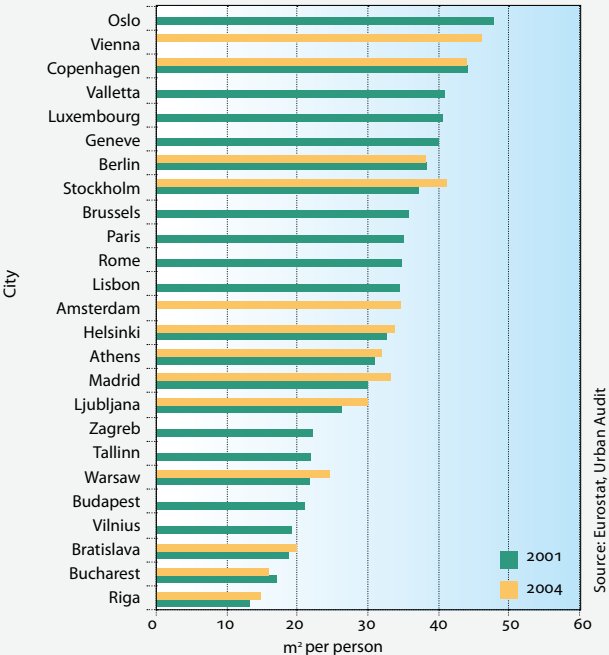
The most densely populated capitals in Europe are Paris and Athens, where population density exceeded 20,000 inhabitants per square kilometre in 2001. However, around the central cities, the population density notably decreases. For example, in the region of Athens, there were

1,054 inhabitants per square kilometre in 2004. In the Helsinki Region, the population density of 412 inhabitants per square kilometre comprises of the Helsinki Metropolitan Area with the density of over 1,300 inhab./sq km, and the area of the rest of Helsinki Region with the density of about 100 inhab./sq km. In the comparison between the European capitals, the population density in Helsinki was similar to that of Vienna, and almost half lower than that of Rome or Athens. In the regions of Amsterdam and Lisbon, the number of inhabit-



ants per square kilometre is over four times the corresponding number in the Helsinki Region. The regions of Tallinn and Oslo are the most sparsely inhabited metropolitan areas in Europe.

**Figure 1.3.2 Living area in European cities in 2001 and 2004, m<sup>2</sup> per person**



### Living area in the Helsinki Region is similar to that of Amsterdam

The living area in the Helsinki Region is 35.4 square meters per person. In the Helsinki Metropolitan Area, the living area is about three square meters smaller than in the rest of Helsinki Region, where the lower price level of dwellings offers better possibilities to acquire extra square meters. International city statistics on living area and its development are available only on a city level from the year 2004. At that time, the average living space of 33.7 m<sup>2</sup> in Helsinki was on a similar level with the living area of Amsterdam. In comparison between the capitals, Oslo had the largest living area with an average of 47.7 m<sup>2</sup> living area per person in 2001. Also in Vienna, Copenhagen and Stockholm the average living area per person exceeded 40 m<sup>2</sup>. Ljubljana is the city with the largest living area per person in the new European Union member states of Eastern Europe.





*Uusmäki, Espoo.*

## Dwelling prices in the London Region are on top in Europe

City comparisons show that dwelling prices are the highest in London, where a square metre of living space cost nearly 4,500 euros in 2004. The second most expensive city was Luxembourg with 3,700 euros per square metre of living space. In Oslo, the price per square metre of living space was around 3,000 euros, and in Rome, prices were a little lower. Helsinki was ranked sixth with an average cost of 2,580 euros per square metre. In Germany, the housing situation is rather good, which means that the price level is lower than in other cities of Western Europe. The price of a square metre of living space was the lowest in Riga, Bucharest and Bratislava. Affordable prices in these cities do not, however, mean that the resi-

dents in these cities feel they can acquire a nice home for an affordable price: over 90 per cent of the residents in Bucharest did not agree with this statement. In Bratislava, the percentage was 85 and in Riga 77. Residents in Paris, Dublin and Luxembourg were the most dissatisfied with the dwelling prices in their area.

## Type of ownership varies

In the Helsinki Region, owner-occupied dwellings are more common than rental dwellings. Inside the region, rental dwellings are the most common in the dense city centres where the supply of social and private rental dwellings is the highest. Rental dwellings bring flexibility to dynamic areas, which change faster than the region in

general, and support the mobility of the work force.

The comparison between the European capital cities shows differences in proportion of dwellings by type of ownership. Owner-occupied dwellings are prevalent in Eastern Europe, where social and private rental dwellings are only poorly available. In Western and Northern cities the housing markets is more often dominated by rental dwellings.

Most holiday homes in the Helsinki region are located by the sea or lakes. In comparison with the population, the number of holiday homes is rather small (13,200). The majority of holiday homes in Finland are located outside the Helsinki Region. The residents of the Helsinki Region own 90,000 holiday homes, in total.

Figure 1.3.3 Average price for an apartment per square meter in European cities in 2004

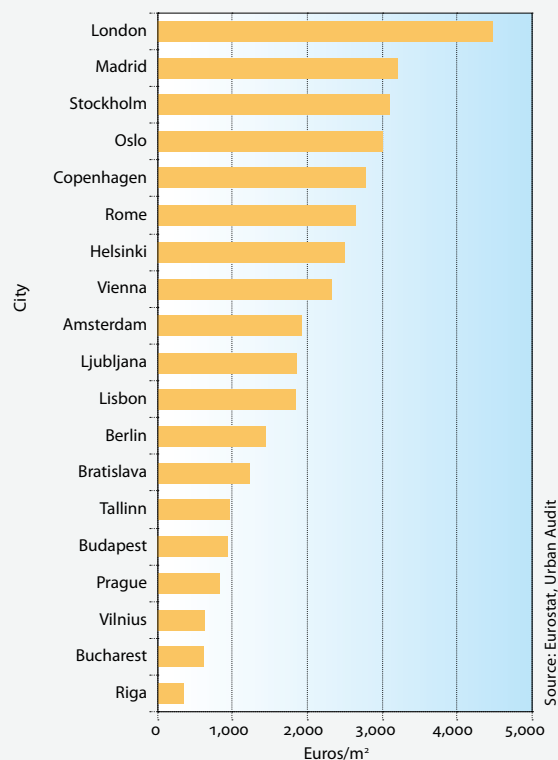


Figure 1.3.4 Proportion of households living in owner-occupied dwellings in European cities in 2001 and 2004

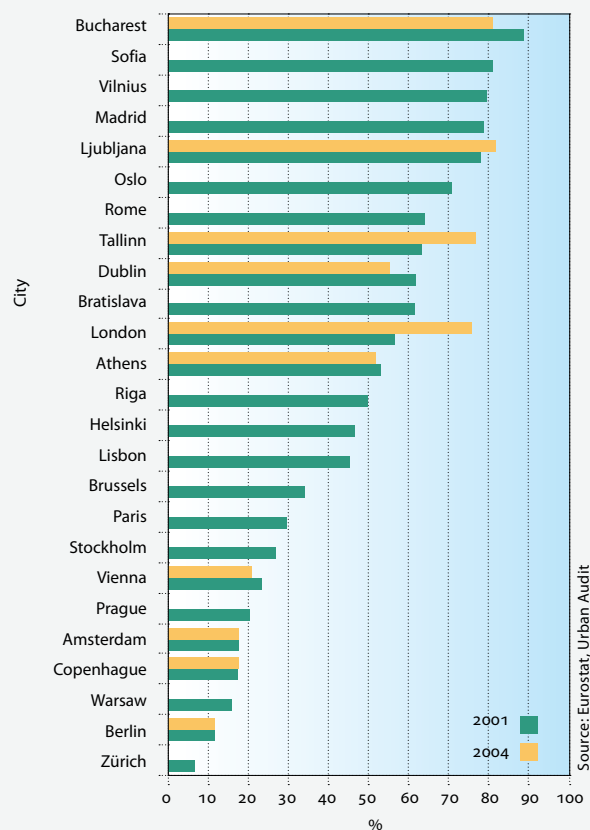


Table 1.3.2 Indicators on living in the Helsinki Region in 2007

	Dwelling stock	Housing production	Housing production/ 1 000 inh.	Living area per person, sq. m	Free-time cottages in the region	cottages owned by inhabitants
Helsinki Region	659,129	9,058	6.9	35.4	13,230	88,487
Helsinki Metropolitan Area	525,912	6,088	6.0	34.6	2,860	70,858
Rest of Helsinki Region	133,217	2,970	10.0	37.9	10,370	17,629
Uusimaa Region	703,427	9,381	6.8	35.6	30,017	93,527
Finland	2,731,826	33,842	6.4	38.0	478,306	478,306

Source: Statistics Finland

## Selected descriptions of living conditions

### Prosperity and high income level are not evenly distributed

The Helsinki Region is a prosperous area and the residents' income level is good both on national and European level. The average income per income recipient in the Helsinki Region was in 2006 nearly 28,700 euros per year, which exceeds the average national level by 6,000 euros.

Prosperity and income level are not evenly distributed. Social problems typical to big cities are present in the Helsinki Region, as well. The majority of the income recipients in the Helsinki Metropolitan Area earn more than the region's average, and the number of people with very low income is smaller than on average in the whole country. Annual low income level is, however, relatively common, since one fifth of all income recipients earn less than 10,000 euros. People with low income come from very different circumstances: some have worked only a part of the year, if the employment has only recently begun or if they have worked only during annual leaves, and their main activity is studying. An overview of income poverty could be obtained only by observing the circumstances of income recipients for several consecutive years. This material does not enable creating such an overview. In the Helsinki Region, income poverty often arises from unemployment, low pension income or single parenting. Young people, who have worked for the whole year, commonly have lower income than the older population.

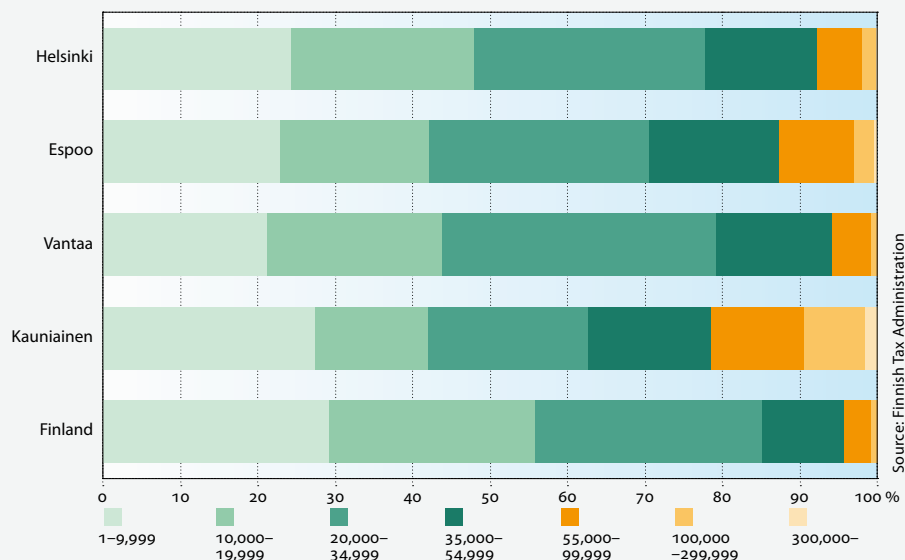


**Table 1.4.1 Average income of the residents in the Helsinki region in 2006**

	State taxation income Per income recipients
Helsinki Region	28,674
Helsinki Metropolitan Area	29,148
Rest of Helsinki Region	26,943
Uusimaa Region	26,963
Finland	22,621

Source: Statistics Finland

**Figure 1.4.1 Income recipients by income groups in the Helsinki Metropolitan Area and in Finland in 2006**





### Children in the Helsinki Region attend day care as often as children in Vienna and Riga

In Finland, all children have a subjective right to use municipal day care services, regardless of parents’ working status. In the Helsinki Region, 60 percent of children aged 1–6 years attend municipal day care on weekdays. The majority of children, 80 per cent, attend full-time day care. The percentages vary between the municipalities in the region: in Vihti and Kerava the percentage is 90, in Hyvinkää 75. In recent years, the popularity of municipal day care has increased in the region, and people are also satisfied with the services.

The use of day care services varies by the age of children. Children under 1 years old are commonly still at home, since the Finnish legislation allows the mother or father take parental leave or allowance to take care of the baby until the baby’s first birthday. After this, many parents – usually mothers – still stay at home, since families can receive home care subsidy for children under three years old. During this period, families will receive national home care subsidy and, in many municipalities, municipal allowance.

In European urban regions, public day care for children aged 0–4 years is most commonly used in Budapest and Copenhagen, where over 70 percent of children under the age of 5 attend public day care. The cities of Bratislava and Stockholm come next. In Madrid, Oslo, Tallinn and Ljubljana, about half of children attend public day care, and in Vienna and Riga the percentage of children attending day care is on the same level with the Helsinki Region. In Athens, on-

Table 1.4.2 Children receiving municipal day care in the Helsinki Region in 2007

	Children receiving municipal day care total	Proportion of 1-6-year olds	Fulltime day care, %	Part-time day care, %
Helsinki Region	54,300	60.2	80.1	19.9
Helsinki Metropolitan Area	40,882	62.1	78.9	21.1
Rest of Helsinki Region	13,418	55.0	83.6	16.4
Uusimaa Region	58,529	61.1	79.9	20.1
Finland	195,265	56.5	78.7	21.3

Source: National Institute for Health and Welfare

Figure 1.4.2 Number of children aged 0–4 in day care, public and private provision, per 1,000 children in urban regions of Europe in 2004

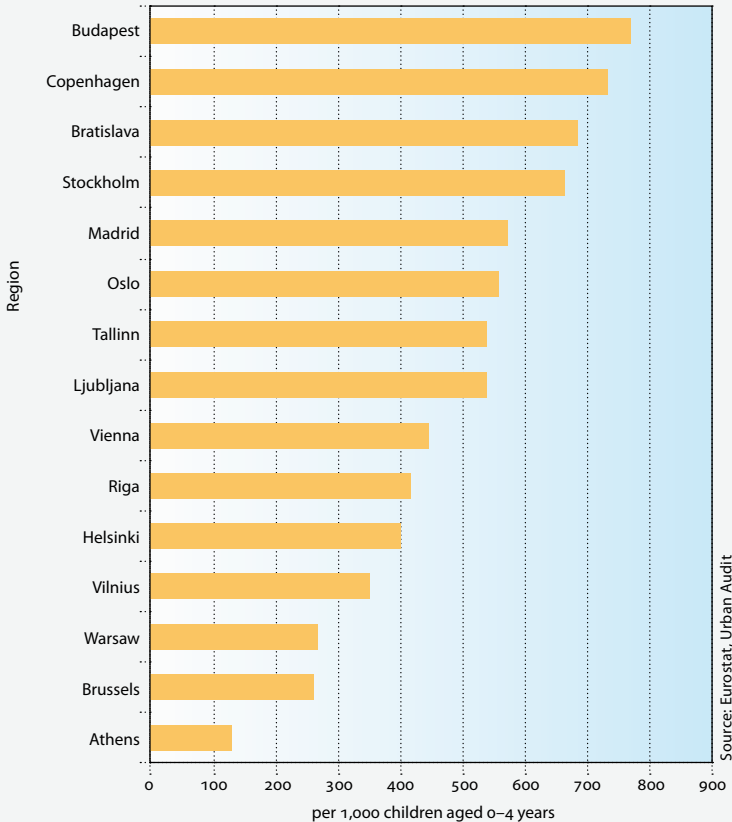


Figure 1.4.3 Perception variables 2007: You feel safe in city?

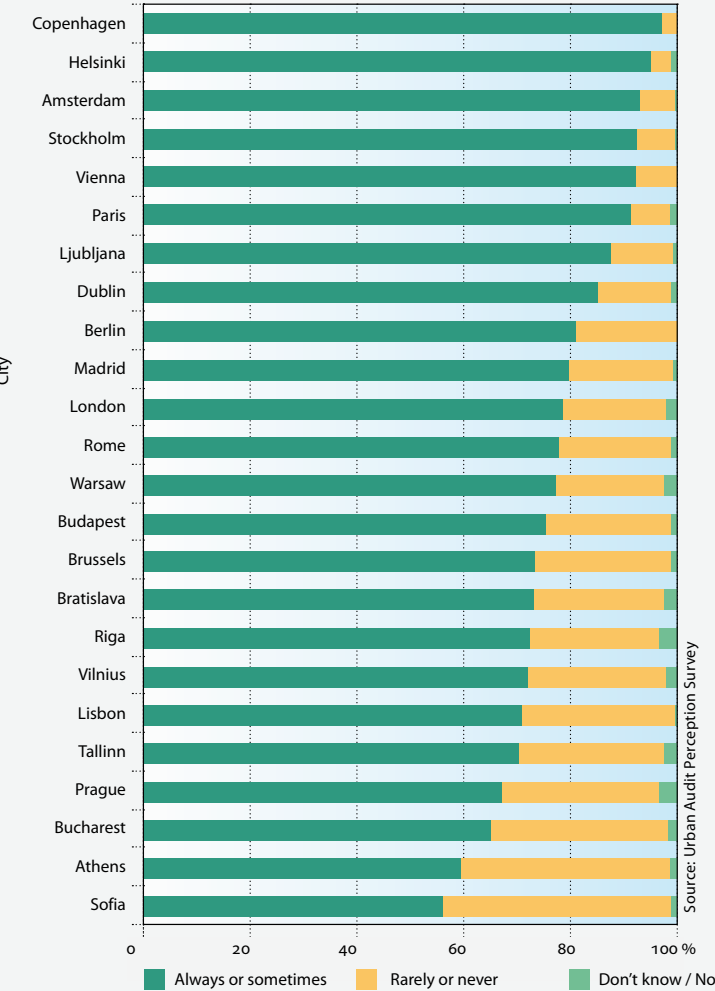
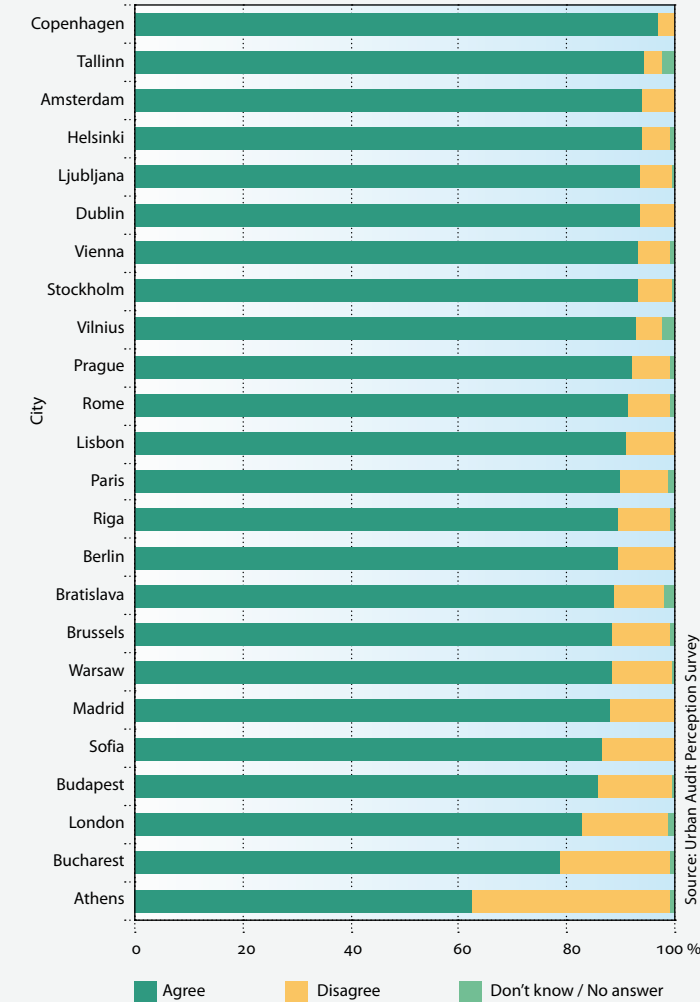


Figure 1.4.4 Perception variables 2007: You are satisfied to live in city?



ly about 10 per cent of children aged 0–4 years attend public day care, which is the lowest percentage recorded.

### **Helsinki Region offers multiple educational opportunities**

One of the most important aspects of and base for good living conditions and competitiveness is education. In the Helsinki Metropolitan Area the level of education is already high – in fact among the highest in European cities. Helsinki ranks first when measured with the share of persons who have completed university or polytechnic degree examination. At the end of the year 2006, the share of polytechnic or university education was 35 percent of the 15 year olds and older in Helsinki, and only two percent unit lower in the rest of the region.

The educational offerings in Helsinki Region are excellent. There are 10 polytechnics and four universities in the region and they offer good possibilities to study for bachelor's, master's or doctor's degrees in several fields – social sciences, economics, medicine, technology, mathematics, philosophy, languages, fine arts and design, music and theatre. Therefore, Helsinki is also a student city. In the Helsinki Region, more than 90,000 youngsters study with an aim to complete a tertiary degree education. The excellent study opportunities as well as better working possibilities give the Helsinki Region a positive net migration from younger generation and have kept the population structure relatively young and dynamic.

Foreign students have also found the Helsinki Region. The total number is not high, but the speed of the growth is – in

five years from 2,000 to 3,000. Most of the foreign students come from other parts of Europe but increasingly also from Asia, Africa and North America.

In addition to students in higher education, there are 74,000 students in upper secondary schools and vocational schools. The students in upper secondary schools and vocational schools mainly come from the Helsinki Region, but there are some special schools which attract students from outside the region, too.

### **How do the residents experience their living environment?**

The European capitals are almost without exception safe and pleasant places to live, according to the residents in the capital cities. Almost all of the residents in Copenhagen and Helsinki felt safe in their home town. Other cities where the resident satisfaction was over 90 per cent were Luxembourg, Amsterdam, Stockholm, Vienna and Paris. The same cities – except for Paris – were among the top 10 cities, when the residents were asked whether they were happy with their lives in the city. The proportion of those satisfied was over 90 per cent in 17 European capitals. Compared with other cities, the residents of Athens were less satisfied with living in their home town.

The general view changes, when the residents assess the quality and quantity of services offered in their city. The residents are generally happy with cultural services, but opinions vary when educational and health care services are concerned. Only in Helsinki and Ljubljana the proportion of those satisfied with educational servic-

es was over 70 per cent. Other cities where the percentage of satisfaction was high were Prague, Lefkosia and Dublin, among others. The residents of Athens, Berlin, Sofia and Vilnius were the most dissatisfied with the educational services in their home town. In all these cities, the proportion of those satisfied was below 40 per cent.

Satisfaction with health care services divides the opinions of the residents in Helsinki more strongly than other services, since only 67 per cent of the respondents were satisfied or somewhat satisfied with health care services. The percentage is notably lower than in the cities where resident satisfaction with health care services was highest, such as Brussels and Amsterdam, where 90 percent of the residents were satisfied with health care services.

The highest level of satisfaction was obtained in transport and cultural services, in which Helsinki ranked high.

Finding a good dwelling at a reasonable price is difficult in almost all European capitals, regardless of the level of housing they offer their residents. Another severe problem in many cities is finding a good job. Although the survey was conducted in Europe at the time when the economic situation was still good, only in three cities – Prague, Dublin and Copenhagen – the percentage of those who considered job opportunities as very good or somewhat good, was over 60 per cent. In Bratislava, Helsinki and London, which came next in the survey, the percentage was around 50 per cent. Finding a good job was the most difficult in Berlin, Rome, Lisbon and Budapest, where the percentage of those satisfied with job opportunities was below 20 per cent.



Figure 1.4.5 Perception variables 2007:  
Are you satisfied with school services?

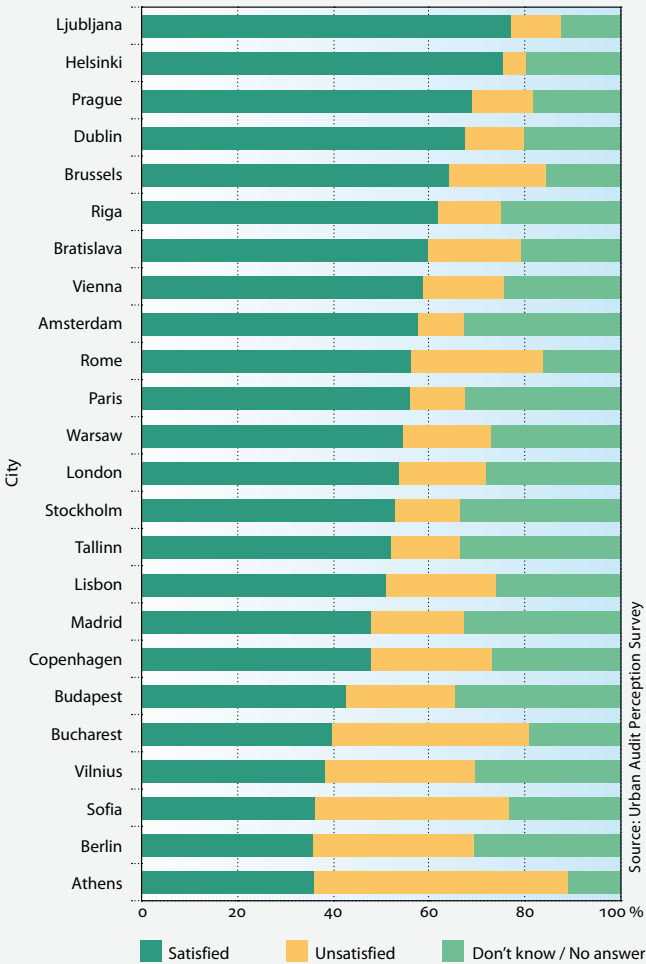


Figure 1.4.6 Perception variables 2007:  
It is easy to find a good job?

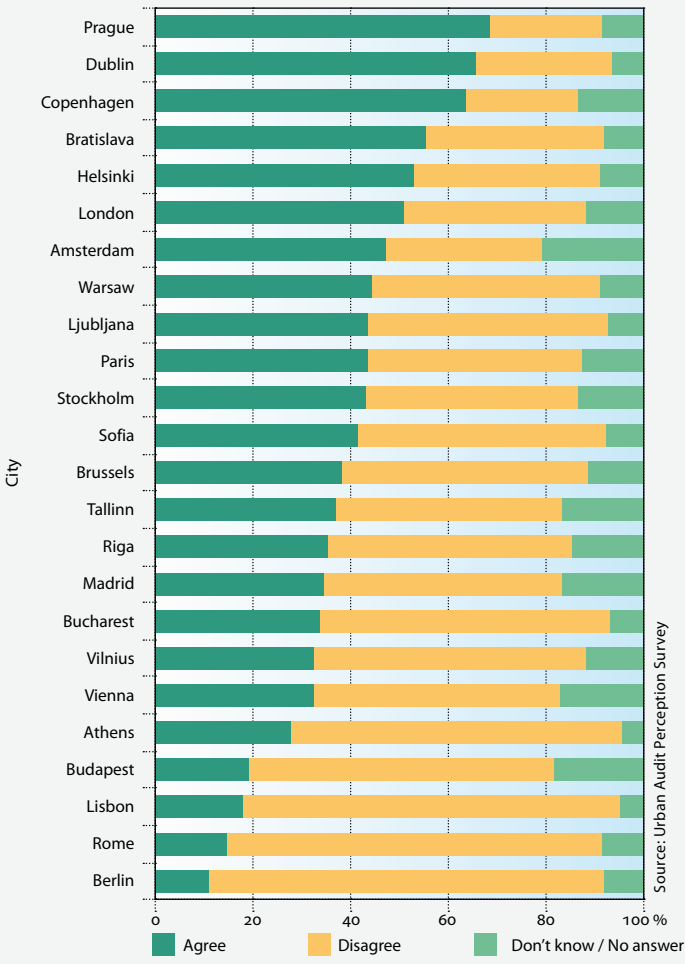
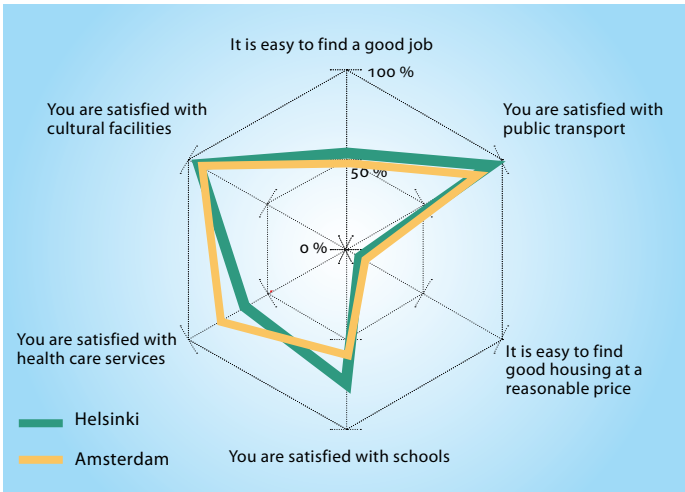
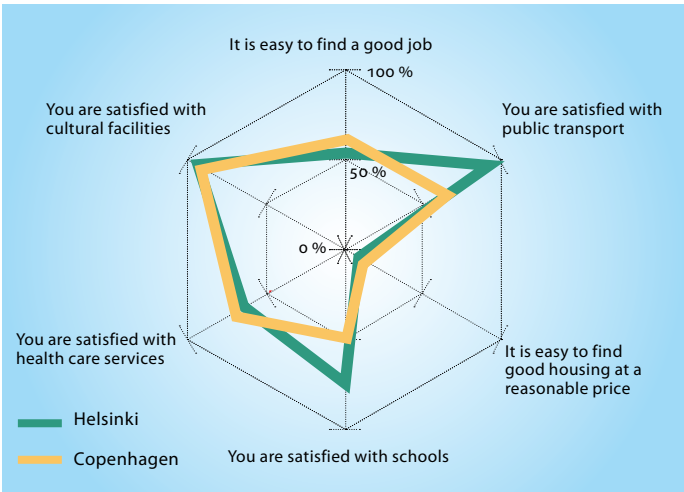
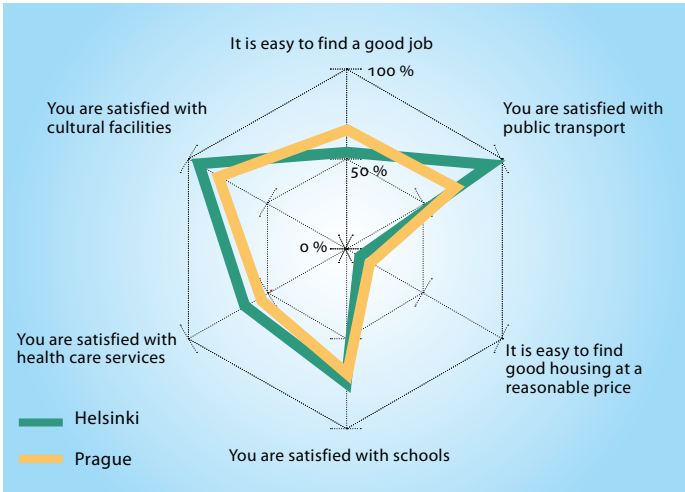
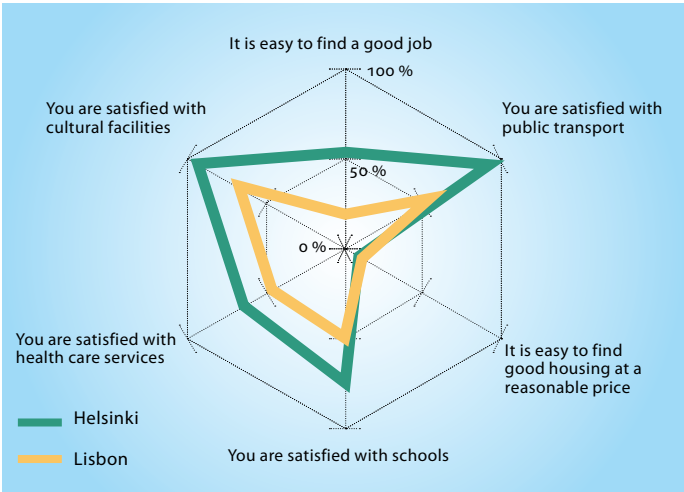


Figure 1.4.7 Residents' experiences in the city comparison 2007



Source: Urban Audit Perception Survey

# 1.5 Culture and liberal adult education

## Culture and liberal adult education increase equality

Networks of libraries, culture centres and liberal adult education units take culture near to residents' homes and provide activity opportunities. A rich supply of art and culture offers the residents plenty of choice and provides collaboration opportunities for actors in various cultural fields. Libraries support people's need for socialisation, promote equality and prevent social exclusion. Furthermore, libraries contribute to lifelong learning.

Liberal adult education, too, reinforces the development of individuals and their ability to work in communities by applying the principle of lifelong learning. At the same time it promotes democracy, equality and pluralism in the Finnish society.

## Art and culture

The Helsinki Region offers a rich supply of art and culture. Helsinki and the Helsinki Metropolitan Area have the most to offer, but there are theatres, orchestras, cinemas and museums in the rest of Helsinki Region, as well.

In the Helsinki Region there are art museums and museums of cultural history. The most popular museum on natural history, the Finnish Museum of Natural History, was opened to public completely renewed in spring 2008. In the Helsinki Region there are also special museums which focus on presenting a certain subject, profession or

**Table 1.5.1 Number of selected cultural services in the Helsinki Region in 2007**

	<i>Public libraries<sup>1</sup></i>	<i>Museums<sup>2</sup></i>	<i>Art museums</i>	<i>Professional theatres</i>	<i>Orchestras</i>
Helsinki Region	99	64	15	20	10
Helsinki Metropolitan Area	76	47	11	20	9
Helsinki	47	37	9	15	7
Espoo	16	8	1	3	1
Vantaa	12	2	1	2	1
Kauniainen	1		-		
Rest of Helsinki Region	23	17	4		1
Uusimaa Region	122	75	15	20	11
Finland	895	263	63	58	29

<sup>1</sup> In 2008.

<sup>2</sup> Excl. art museums.

Sources: Statistics Finland, National Board on Antiquities, Finnish Theatre Information Centre and Association of Finnish Symphony Orchestras

**Table 1.5.2 The most popular museums in the Helsinki Region in 2007**

<i>Museum</i>
Kiasma Museum of Contemporary Art
EMMA – Espoo Museum of Modern Art
Ateneum Art Museum
Helsinki City Art Museum
National Museum of Finland
Design Museum
Finnish Museum of Horology

Source: [www.museotilasto.fi](http://www.museotilasto.fi)



a person, such as The Finnish Museum of Horology and Studio Aalto.

The most popular art museum is The Museum of Contemporary Art Kiasma in Helsinki. The museum breaks the boundaries of a traditional art museum and follows the latest development of visual art. The collections include Finnish and international, especially Scandinavian, Baltic and Russian art from the 1960's onward. The second most popular museum in the Helsinki Region in 2007 was the Espoo Museum of Modern Art, Emma, founded in 2002. Emma displays art from the early 19th century to today's contemporary art.

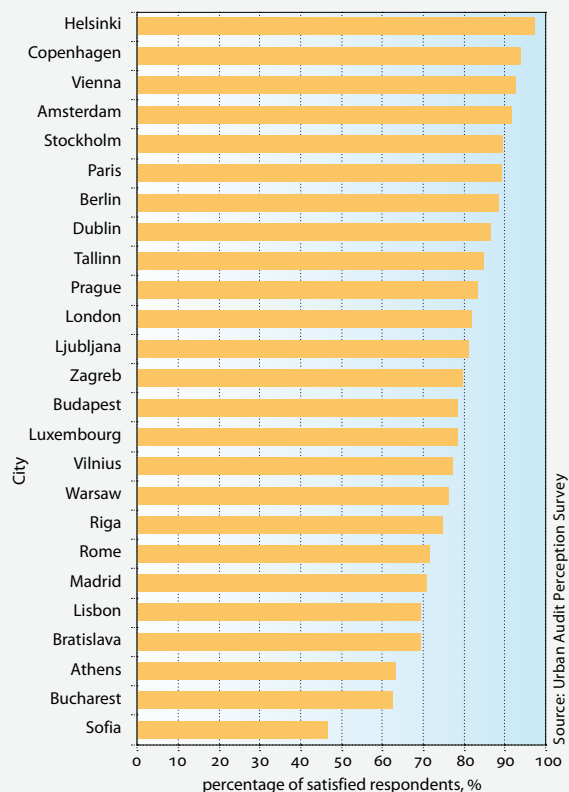
The Ateneum Art Museum in Helsinki is Finland's national gallery. The museum houses the largest collections of art in Finland and presents the development of Finnish art all the way from the Gustavian era in the middle of the 18th century to the modernism of the 1950's. In addition to the Finnish art collection, Ateneum has a small but a very high quality collection of international art which includes works from e.g. Vincent van Gogh, Paul Gauguin, Paul Cézanne, Fernand Léger and Marc Chagall.

One can admire architecture also outside the museums: in Helsinki there are whole districts built in the spirit of Art Nouveau, which blossomed in the turn of the 19th and 20th century. There are approximately 600 jugend-style buildings in Helsinki.

In Vantaa, The Finnish Science Centre Heureka popularises science. Heureka presents exhibitions from around the world and also takes its exhibitions abroad.

According to Finnish Tourist Board MEK, the most popular free of charge tourist attractions in the Helsinki Region are the

**Figure 1.5.1 Perception variables 2007: Are you satisfied with the city's cultural institutions such as concert halls, theatres, museums and libraries?**



Linnanmäki Amusement Park and the Island Fortress of Suomenlinna. Suomenlinna is one of the largest sea fortresses in the world. It is located about one kilometre from the Helsinki city centre. Over 250-year-old Suomenlinna fortress is included in UNESCO's World Heritage List. Suomenlinna is a popular area for recreation and outdoor activities among the residents of the Helsinki Region and also among visitors from elsewhere. Many know Suomenlinna's beaches, rocks and lawns as pleasant

picnic venues. The area is interesting also for its versatile summer programme.

For many, the most well known attraction is the Helsinki Zoo in Korkeasaari, which is one of the oldest zoos in the world. It is also one of the rare zoos in the world that are located on an island.

46.4 per cent of all the jobs in the culture sector in Finland are located in the Helsinki Region.

Helsinki residents are satisfied with their cultural amenities, according to a percep-

tion survey on the quality of life in their city. The survey was conducted in 75 major European cities for the European Commission. Of the 500 Helsinki respondents, 94 per cent were very or quite content with the concert halls, theatres, museums and libraries in the city. This figure placed Helsinki among the top scorers in terms of resident satisfaction in 2007.

Statistics show that the majority of the consumers of Helsinki's cultural offerings come from the 1.3 million inhabitants of the Helsinki Region. But it should be noted that visitors from other parts of Finland, and overseas, too, significantly contribute to these figures.

### Public libraries

The city libraries in the Helsinki Metropolitan Area cities of Helsinki, Espoo, Vantaa and Kauniainen, with their library network and close collaboration, bring services close to the residents. At the same time, the services extend beyond the municipal borders. In 2003, the libraries introduced a new library system and web services which enable users to book material and renew their loans. The basis of service, a shared library material database, was named HelMet (abbreviation from Helsinki Metropolitan Area Libraries). The word is also a pun: in Finnish, helmet means "the pearls". HelMet has proven to be a real pearl, and a

recent survey shows HelMet was the second most popular web service in the Helsinki Metropolitan Area, second only to Google.

In addition to books, magazines and other printed material, libraries also offer music and videos for loan. HelMet's link to the Naxos Music Library offers opportunities to listen to music on one's own computer. Loaning of other than printed material has significantly increased in the Helsinki Region.

Public libraries are the most popular cultural service in Finland, and the use and loaning of collections is free of charge. Libraries have become more of a living room

Figure 1.5.2 Book and media loans per resident in certain European major cities in 2005

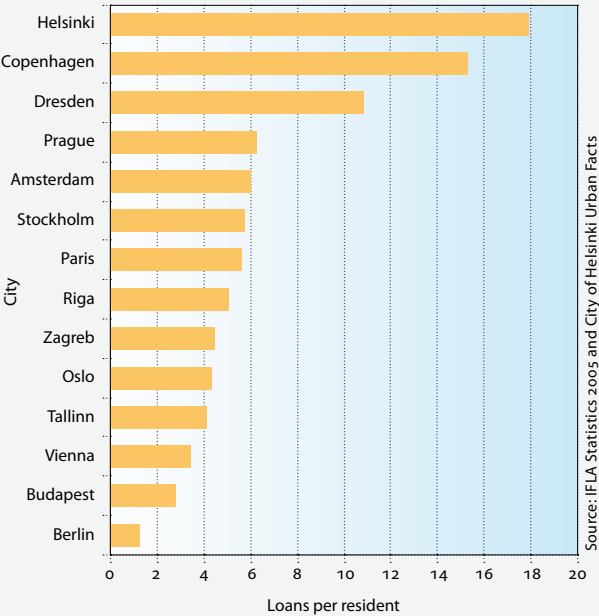
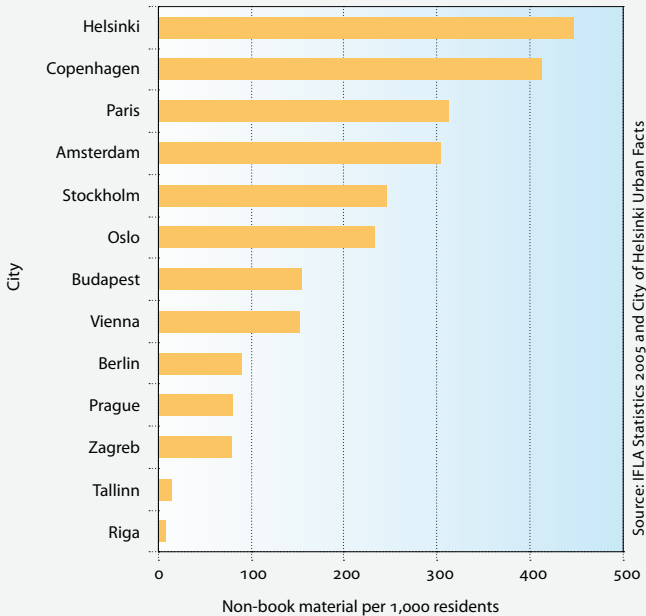


Figure 1.5.3 Non-book material per 1,000 residents in selected cities in 2005



The Helsinki Region also offers a wide range of music education: in 2008 almost one quarter of all Conservatories and Music Institutes in the country offered education in the region and provided excellent opportunities to develop musical interest. Musical skills can be further developed also in liberal adult education centres, such as Adult Education Centres. – The Helsinki Region offers music education opportunities all the way to university level professional education.

Table 1.5.3 Liberal Adult Education Centres and Music Institutes in Helsinki Region in 2008

	Folk High Schools	Adult Education Centres <sup>1</sup>	Study Centres	Other Institutes <sup>2</sup>	Music Institutes <sup>3</sup>
Helsinki Region	9	17	11	5	21
Helsinki Metropolitan Area	6	8	11	5	16
Helsinki	4	5	10	3	11
Espoo	-	1	-	1	3
Vantaa	-	1	1	1	1
Kauniainen	2	1	-	-	1
Rest of Helsinki Region	3	9	-	-	5
Uusimaa Region	15	22	11	8	23
Finland	83	223	11	41	89

<sup>1</sup> For historical reasons, Adult Education Centres directly translate to workers' institutes in Finnish.

<sup>2</sup> Sports Institutes, Summer Universities and other institutes.

<sup>3</sup> Higher education Music Institutes not included.

Source: Statistics Finland

for visitors, especially when computers and wireless Internet are available. Many users still regard library as mainly a building or a space with a collection. Alongside with the traditional library services and material, libraries offer electrical material and web services which enable the remote use of libraries, as well. Thus, we have a hybrid library which is both a physical space and a virtual network. Physical and virtual complete each other, and a customer may choose the most appropriate service method and place for her/himself.

### Liberal adult education and Music Institutes

In the Helsinki Region there are 17 Adult Education Centres with their units, and in the Uusimaa Region there are 5 more centres. Finland is covered with a network of over 220 Adult Education Centres.

Adult Education Centres play an important role in liberal adult education, and most

Summer Universities are regional education organisations that offer open university education and other education. In the Helsinki Region there is one Summer University.

Folk High Schools are boarding schools which promote citizens' liberal education so that every Folk High School may at the same time emphasise its values, ideas and educational objectives. The majority of Folk High Schools are private schools. There are 10 Folk High Schools in the Helsinki Region, and 90 in the whole country.

All the Study Centres in Finland are located in the Helsinki Metropolitan Area. Study Centres are national adult education providers. The centres organise education both by themselves and in collaboration with civic and culture organisations.

of the centres are run by municipalities. The centres offer opportunities for liberal education. Adult Education Centres add to the supply of culture and education services and increase and secure the availability of education.

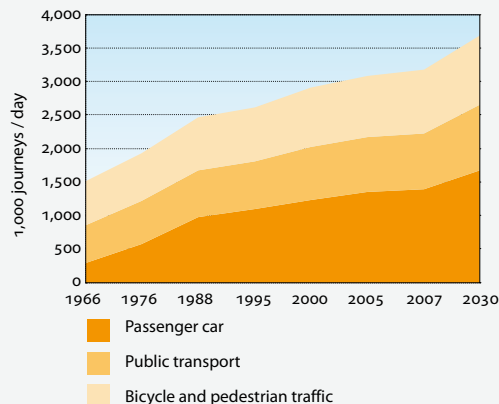
Municipal Adult Education Centres serve citizens flexibly, since they are capable of responding to local residents' needs and wishes. Adult Education Centres organise cultural activity courses which bring people together in villages and districts. In multicultural society these centres help people with a variety of cultural backgrounds integrate into the Finnish society.

The liberal adult education had the most participants in non-formal adult education in the whole of Finland in 2007. It also had the highest amount of teaching hours. The majority of all non-formal adult education teaching hours, 27 per cent, were given in culture sector and primarily in art and craft sector. Of the participants, 70 per cent were female.



## 1.6 Traffic and transportation

**Figure 1.6.1 Traffic development in the Helsinki Metropolitan Area in 1966–2030**



Source: Helsinki Metropolitan Area Council YTV

**Table 1.6.1 Number of persons seriously injured in road accidents and the proportion per 10,000 residents in urban regions of Europe in 2004**

	Number of persons seriously injured in road accidents	per 10,000 residents
Athens	647	1.6
Bratislava	247	4.1
Brussels	564	3.1
Budapest	1,682	7.0
Lisbon	837	3.4
London	6,618	5.6
Oslo	160	1.5
Paris	1,945	1.8
Riga	3,367	33.5
Stockholm	905	4.9
Tallinn	1,121	21.5
Vilnius	1,726	24.3

Source: Eurostat, Urban Audit

### Traffic and transportation aims at environmental friendliness

Traffic and transportation impact the environment and the residents' health and habitability in many ways. Environmentally friendly urban traffic consumes only little energy, emits not much particles and chemical compounds, produces only a little noise and does not require a lot of space. It is also safe and pleasant for all the residents and other people on the streets. The pleasantness of the environment is influenced by the amount of traffic, modal distribution, functionality and the space required for traffic.

### Dependence on passenger cars threatens to increase

The population growth in the Helsinki Region continues to increase passenger car traffic. The increase in the modal share of passenger car journeys and in the average length of journeys increase passenger car traffic, as well. Car traffic increases e.g. in the borders of Helsinki, since many come to work to Helsinki from other municipalities in the Helsinki Region. Furthermore, own car is used ever more often for spare time travelling. Besides the increase in people's mobility, the extension of land use also increases the amount of passenger traffic. When housing spreads out and services centralise, the dependence on passenger cars is likely to increase.

According to an estimate, car traffic volume in the Helsinki Metropolitan Area will

increase about 40 per cent from today's volume by the year 2030. Outside it the growth will be even higher, over 50 per cent.

Cities and urban regions in the European Community suffer from pollution, noise, overpopulation and security problems, because about 75 per cent of the traffic in the metropolitan areas is caused by cars. In the European urban regions almost half of the inhabitants own a car or several cars. The number of car owners per 1,000 residents was highest in old urban regions like Rome, Luxembourg, and Brussels in 2004, and lowest in the urban regions of new European Community member states, such as Riga and Tallinn. The number of private vehicles per capita in the indicator most commonly used to set targets for the integration of environmental objectives with transport policies.

The impacts of traffic on security can be assessed by observing the proportion of people seriously injured in traffic accidents per 10,000 inhabitants. In 2004 this proportion was highest in Europe in the urban regions of Riga, Vilnius and Tallinn.

### Development of bicycle and pedestrian traffic and public transport

In the Helsinki Metropolitan Area, interurban travel modes were divided in 2007 into three parts of almost the same size: passenger car traffic, public transport and pedestrian and bicycle traffic. According to a

Figure 1.6.2 Number of private cars per 1,000 residents in urban regions of Europe in 2004

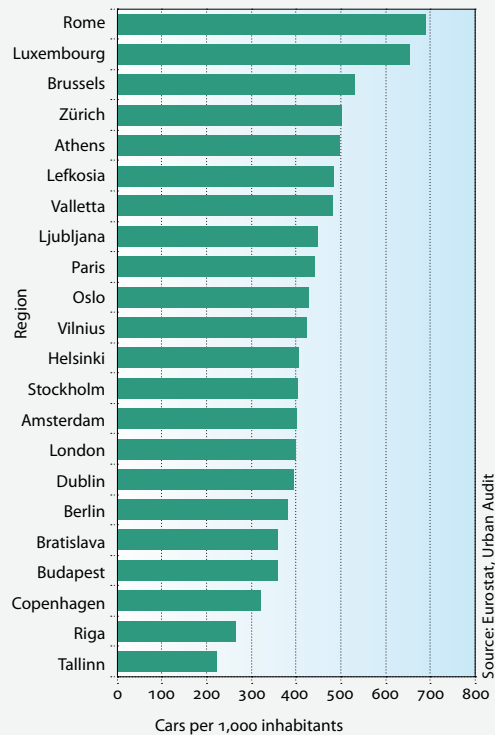
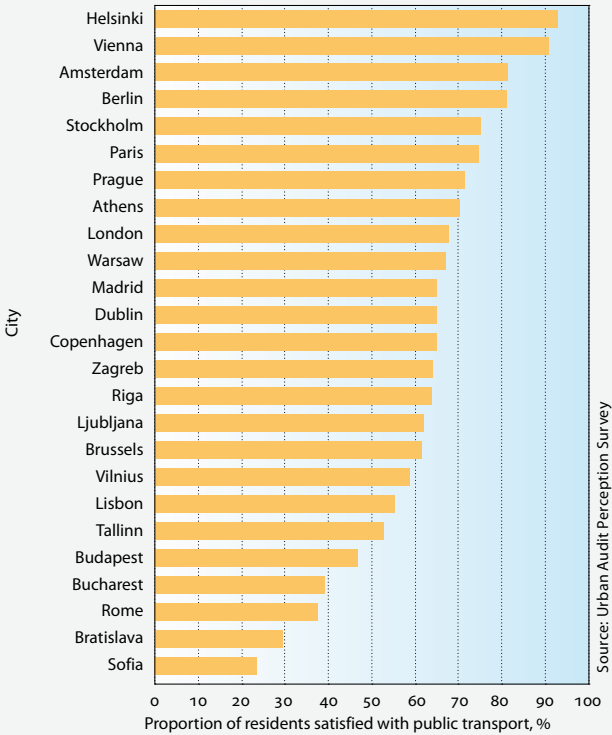


Figure 1.6.3 Perception variables 2007: Are you satisfied with public transport?



forecast, the amount of bicycle and pedestrian travel in the Helsinki Metropolitan Area and in the whole of the Uusimaa Region will be approx. 12 per cent higher in 2030 than it was in 2005.

International comparisons show that public transport has a positive image. In 2007, the proportion of those content with public transport was relatively high. The results of a survey conducted in 2004 were alike: for example, the residents of Helsinki and Vienna were already then among the

first five, who were the most content with public transport.

In autumn 2007, 718,000 persons crossed the borders of Helsinki on working days, when the traffic was counted both ways. The proportion of public transport was 62.7 per cent, when in 2006 it was 62.2 per cent. The proportion of rail traffic of all public transport was 66 per cent, as it was also in 2006.

The Helsinki Region as the Helsinki Metropolitan Area face the challenge of improv-

ing public transport. The expected passenger growth is focused nearly completely on rail traffic: municipalities prepare for climate requirements by constructing dozens of kilometres of new rail lines.

The number of public transport journeys in the Helsinki Metropolitan Area will be about a quarter higher in 2030 than it was in 2005. The modal share of public transport journeys of all motor vehicle journeys will, according to a forecast, remain nearly as it is now, that is in 37 per cent.

Commuting between the Helsinki Region and other parts of Finland

The 14 municipalities in the Helsinki Region form a rather compact economic and labour market area. According to Labour Force, the region had 722,000 jobs in 2007. At the same time, there were 681,000 working inhabitants in the region, thus the difference between the number of jobs offered and the number of working inhabitants was 41,000. The surplus of jobs in comparison with the employed was six per cent, so the region's degree of self-sufficiency in jobs was 106 per cent. In the Helsinki Region this degree has remained on the same level for years.

The Helsinki Region has thus required labour force from elsewhere to fill the open positions, the missing 6 per cent. It has been realised in recent years with commuting traffic. Commuting from other parts of the country to the Helsinki Region has mainly increased year by year, and in 2007 the number of journeys was already 64,000. Commuting from the region to elsewhere in the country is far more rare: in 2007 slightly under 23,000 journeys were done. The difference between the two, or net commuting, fills in the 6 per cent labour force gap, which in 2007 was 41,000 employees.

Net commuting to the region has increased rather strongly in the recent years.

Since the degree of self-sufficiency in jobs has remained around 106 per cent, the growth rate of net commuting has been similar to the growth rate of open positions.

The commuting traffic figures are rather high, but still moderate, if compared with commuting traffic over municipal borders inside the Helsinki Region. For example, the amount of traffic between the City of Helsinki and other parts of Finland is almost three times higher than the amount of commuting traffic between the Helsinki Region and other parts of the country. This demonstrates how compact the Helsinki Region labour market area really is.

Figure 1.6.4 Commuting in the Helsinki Region in 1995–2007

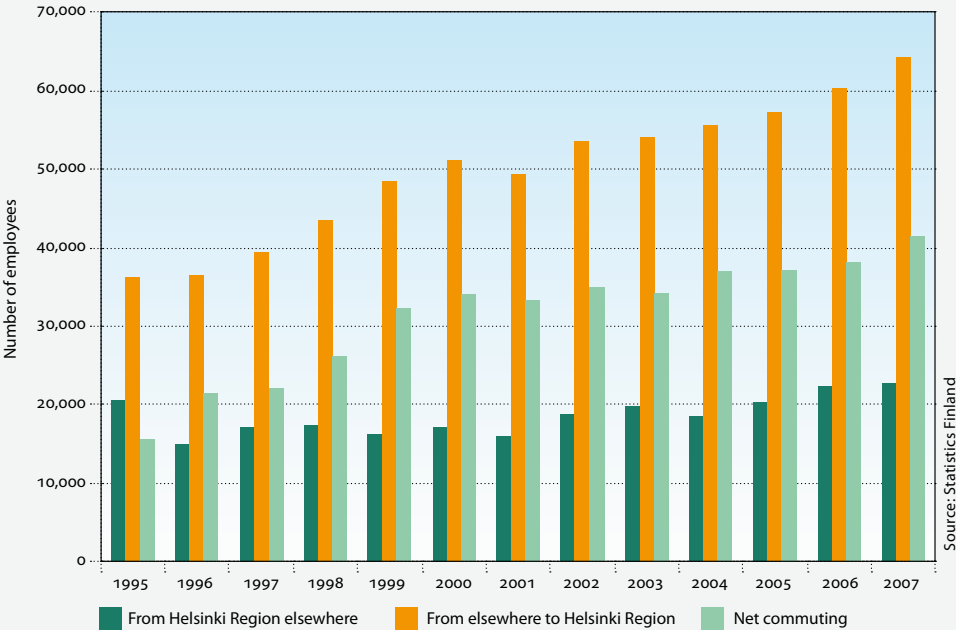


Figure 1.6.5 Commuting between the Helsinki Region and other parts of Finland in 2007

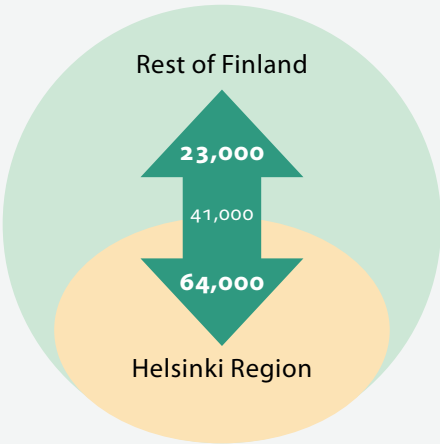
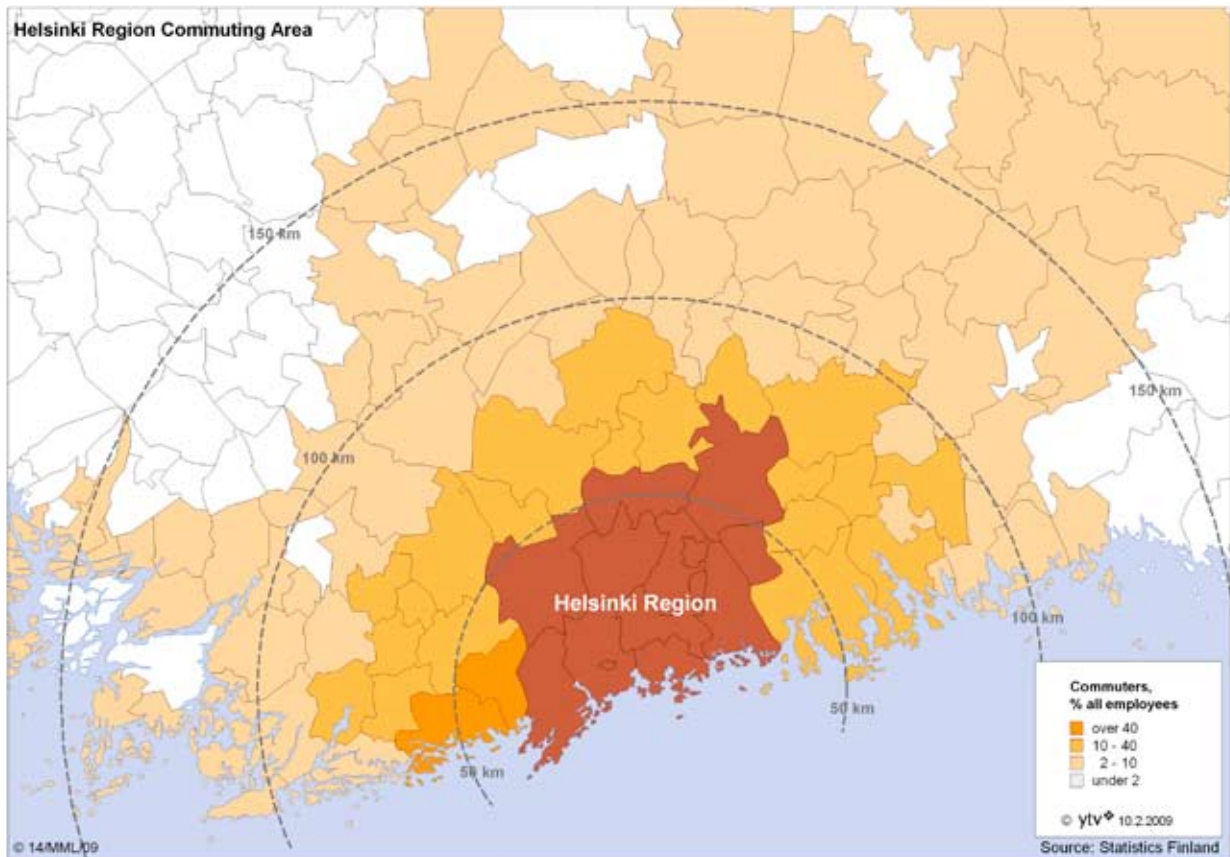






Figure 1.6.6 Helsinki Region Commuting Area in 2007



Source: Helsinki Metropolitan Area Council YTV

## Economy and industries

### Helsinki Region produces over 40 % of revenue of all business activities in Finland

There are about 74,300 enterprises in the Helsinki Region, which altogether employ nearly 470,000 people. Their total revenue is 147.8 billion euros, which is approx. 43 per cent of the total revenue of all business activities in Finland. In total, there are about 743,000 jobs in the Helsinki Region.

### Paris is the top urban region in terms of GDP

In the Helsinki Region, the GDP per capita was 44,792 euros in 2006, which is 65 per cent above the average in the European Union. The Helsinki Region ranks 11th among European metropolises. Geneva is the city with the highest GDP per capita. Oslo ranks second and is followed by Munich, Zürich and Dublin. According to advance information from 2007, Stockholm ranks 6th. In addition to preceding metropolises, also Hamburg, Frankfurt, London and Amsterdam rank above Finland. The cities of Brussels and Copenhagen rank below the Helsinki Region, and so does Paris.

Paris is the leading Metropolitan Area in Europe in terms of GDP. London is next, with national product exceeding that of Madrid in the third place by approx. 147 per cent. Helsinki ranks 25th in the comparison between 54 Metropolitan Areas in Europe. In relation to population Helsinki does well, since measured by population, Helsinki ranks only 35th.

**Table 1.7.1 Enterprises, personnel and revenue in the Helsinki Region in 2007**

	Number of enterprises	Number of staff	Revenue (1,000 euros)
Helsinki	35,413	237,878	61,351,837
Espoo and Kauniainen	11,692	77,917	49,883,931
Vantaa	8,468	76,080	22,903,384
Helsinki Metropolitan Area	54,779	391,875	134,139,152
Helsinki Region	67,792	445,607	147,827,404
Finland	251,204	1,380,847	345,186,497

Source: Statistics Finland

**Figure 1.7.1 GVA per capita in urban regions of Europe in 2007**

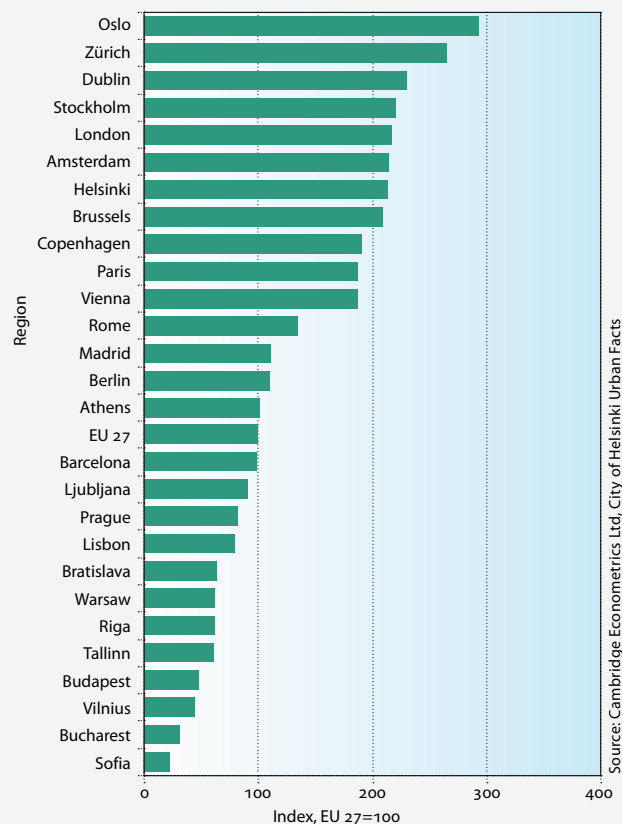


Figure 1.7.2 Employed labour force by industry in the Helsinki Region in 2006

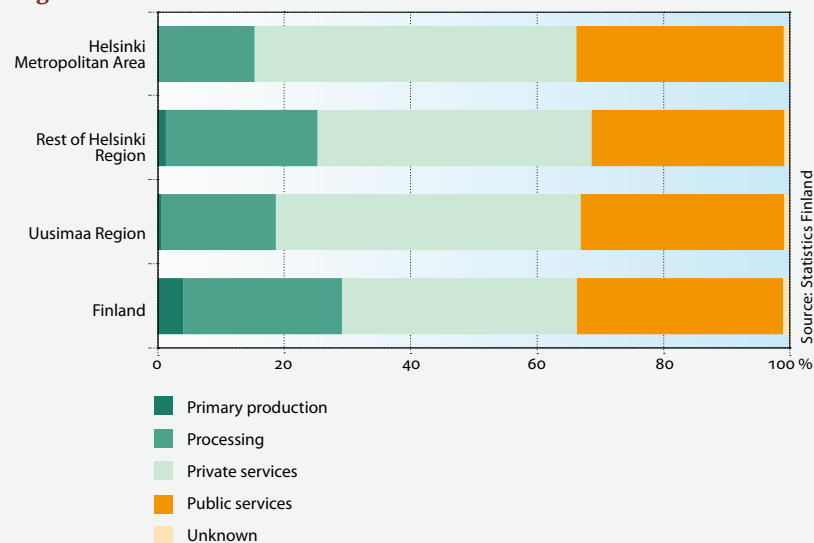
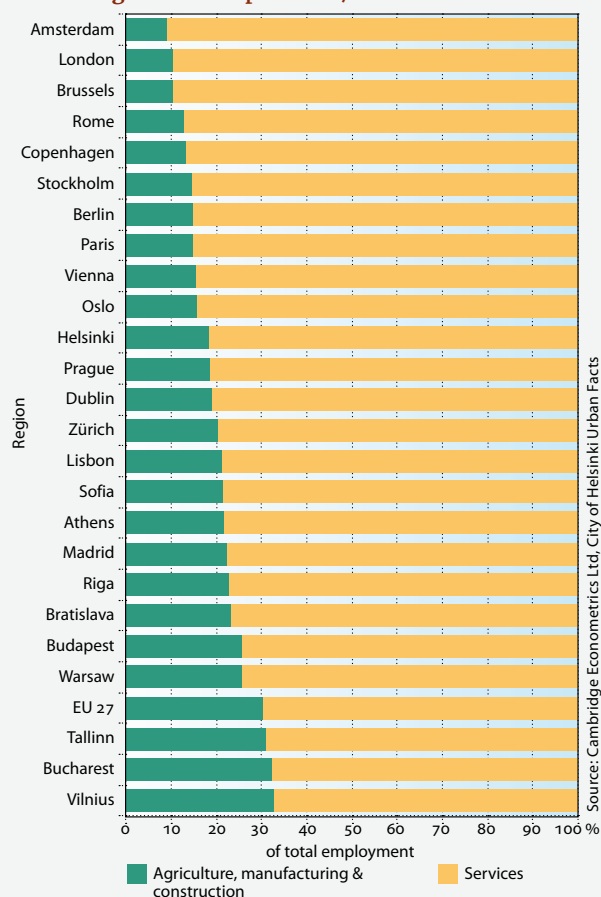


Table 1.7.2 Employment in the Helsinki region in 2007

	Employed	Employment rate, %	Unemployed	Unemployment rate, %
Helsinki Region	641,817	70.7	46,867	6.8
Helsinki Metropolitan Area	499,475	70.1	38,591	7.2
Rest of Helsinki Region	142,342	72.6	8,276	5.5
Uusimaa Region	680,229	70.6	49,899	6.8
Finland	2,313,788	65.7	248,759	9.7

Source: Statistics Finland

Figure 1.7.3 The share of employment in service sector and in agriculture, manufacturing and construction in urban regions of Europe in 2007



## Service sector employs residents in big cities

The service sector accounts for 82 per cent of all jobs in the region. In the European Union, the importance of industry, construction and agriculture is notably higher: in 2006 they employed about 30 per

cent of the labour force. In the Helsinki Region the figure was only 18 per cent. The importance of service sector for the whole economy is the highest in Haag, Amsterdam and London, where the service sec-

tor accounts for about 90 per cent of all jobs. The Baltic Sea and Scandinavian capitals of Copenhagen, Stockholm, Berlin and Oslo are more service sector orient-

## Labour force participation rate is high in Helsinki and people continue to work for a long time

In Helsinki, the labour force participation rate was 77.5 percent in 2004, which is the second highest percentage among the comparison cities, right after the city of Oslo. Unemployment is not a major explanation for high or low employment rate. However, Oslo with the highest employment rate also had a low unemployment rate (2.5 per cent), whereas Berlin with an employment rate of 73.3 per cent had an unemployment rate of 18.3 per cent. Athens, with a relatively low employment rate, also had a rather low unemployment rate of 9.1 per cent. In the comparison, Helsinki ranks in the mid-range, since the lowest unemployment rates, besides the above mentioned city of Oslo, are recorded in Stockholm and London, where the unemployment rate is about 5 per cent.

The labour market participation of young and older people varies notably between different areas. The highest participation rate of people aged 55–64 years is in Helsinki, where 70 per cent of them are still working. The level of labour market participation is similar to that of Helsinki in Oslo, Tallinn and Copenhagen, where over 60 per cent of people aged 55–64 are working. Among young people, working is most common in the capitals of Northern Europe. Young people work most actively in Amsterdam, then in Copenhagen, Dublin followed by Oslo. In other cities, under half of young people work. In the comparison, Helsinki ranks 8th with the participation rate of 46 per cent.

Figure 1.7.4 Employment rate in urban regions of Europe in 2004

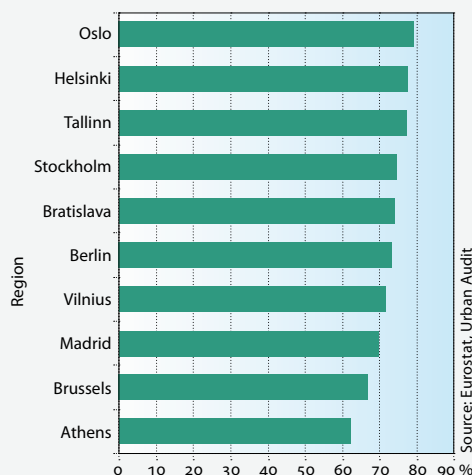


Figure 1.7.5 Unemployment rate in urban regions of Europe in 2004

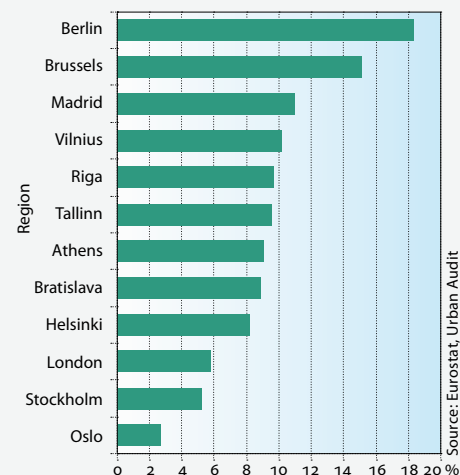
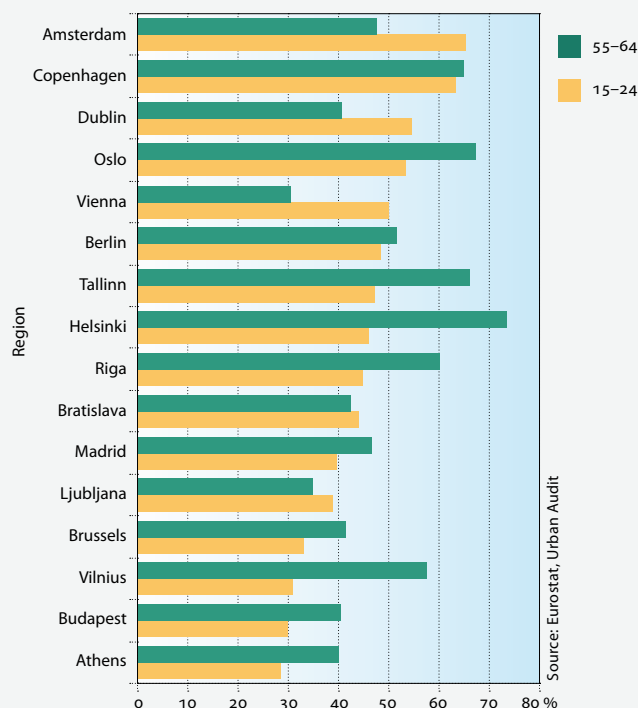


Figure 1.7.6 Labour market participation of people aged 15–24 years and 55–64 years in urban regions of Europe in 2004





2

Helsingin kaupungin kuvapankki / Matti Mäkelä

More information  
on Helsinki Region



## Water and soil provide recreation opportunities

### Land and waters in Helsinki Region

The topography of the Helsinki Region is typical to Finland's southern coast: small, barren hills of rounded rocks alternate with clay-bottomed valleys. The coastline is fragmented because of numerous bays extending inland. Sea coast bays and narrow inland lakes and rivers are usually located in the bedrock's straight and steep fracture lines.

The nature in the Helsinki Region has been shaped above all by the last Ice Age. After the Ice Age the earth began to rise as the ice began to melt approx. 12,000 years ago. Even today, the land is still rising and the archipelago, in particular, continues to change. Small islets are still slowly rising from the sea and the sea bays become shallower and dry into coastal meadows. Also people have reclaimed land from the sea.

After the Ice Age, the Helsinki Region remained under water. Gravel and boulder belts of the ancient shoreline can be seen in many places tens of meters above the present shoreline. The ice transported some of the boulders at their current locations from South-East Finland and Russia.

Finland's bedrock is among the oldest in the world. In the Helsinki Region, the rock types are gneiss, slate and granite that represent the deep roots of a mountain belt that stood here two trillion years ago. The soil in Finland formed mainly during and after the last Ice Age. The most common soil types are till, which is crushed stone removed by ice from bedrocks, clay and sand.

Table 2.1.1 Proportions of land and waters in the Helsinki Region on 1st January 2009

	Total area km <sup>2</sup>	Land	Fresh water	Sea water	Total water area	Prop. of water area, %
Helsinki Region	5,518.40	3,697.01	143.39	1,678.00	1,821.39	33.01
Helsinki Metropolitan Area	1,490.07	769.48	20.94	699.65	720.59	48.36
Helsinki	715.55	213.00	0.88	501.67	502.55	70.23
Espoo	528.16	312.22	17.96	197.98	215.94	40.89
Vantaa	240.36	238.38	1.98	0.00	1.98	0.82
Kauniainen	6.00	5.88	0.12	0.00	0.12	2.00
Rest of Helsinki Region	4,028.33	2,927.53	122.45	978.35	1,100.80	27.33
Hyvinkää	336.79	322.64	14.15	0.00	14.15	4.20
Järvenpää	39.95	37.59	2.36	0.00	2.36	5.91
Kerava	30.79	30.62	0.17	0.00	0.17	0.55
Kirkkonummi	1,016.01	366.08	27.61	622.32	649.93	63.97
Mäntsälä	596.17	580.94	15.23	0.00	15.23	2.55
Nurmijärvi	367.26	361.85	5.41	0.00	5.41	1.47
Pornainen	150.11	146.53	3.58	0.00	3.58	2.38
Sipoo	698.68	339.64	3.01	356.03	359.04	51.39
Tuusula	225.48	219.57	5.91	0.00	5.91	2.62
Vihti	567.09	522.07	45.02	0.00	45.02	7.94
Uusimaa Region	10,559.42	6,394.92	399.06	3,765.44	4,164.50	39.44
Finland	390,919.98	303,898.84	34,525.54	52,495.60	87,021.14	22.26

Source: National Land Survey of Finland

In Helsinki there are no waters classified as lakes, but there are approx. 40 lakelets and 25 brooks. There are 315 islands in Helsinki. There is 98 km of shoreline, and with the annexation, realised on 1st January 2009, Helsinki's shoreline increased by 24.5 km.

In Espoo there are 75 lakes. Espoo has 58 kilometres of coast on shore – plus the archipelago.

In Vantaa there is Lake Kuusijärvi. Also the eastern tip of the Lake Pitkäjärvi in Espoo extends to Vantaa. In Vantaajoki river basin there are a dozen lakes whose area exceeds 100 hectares.

In Kauniainen there is a small Lake Gallträsk.

In Uusimaa Region there is slightly under 2,000 km of shoreline.

Figure 2.1.1 Baltic Sea catchment area



Source: Finnish Environment Institute, City of Helsinki Urban Facts



Helsinki Region's land area is 3,697 km<sup>2</sup>. It is only 1.2 per cent of Finland's total area. Fresh water and sea covers about one third of the area of the municipalities in the Helsinki Region. In the Helsinki Metropolitan Area the proportion of water is almost half, and particularly in Helsinki but also in Espoo municipality, there is a lot of water. In Kirkkonummi and Sipoo municipalities there are several square kilometres of sea. The archipelago is a central part of nature in the maritime cities of the Helsinki Region.

Sea is present also in the Helsinki Metropolitan Area in Espoo and especially in Helsinki, which is often called the Daughter of the Baltic Sea.

The Baltic Sea area is approx. 415,000 km<sup>2</sup> and its catchment area is even four times larger. If measured in water volume, the Baltic Sea is the second largest brackish water basin in the world. Water in the Baltic Sea is a mixture of ocean water and fresh water from the hundreds of rivers that empty into the Baltic Sea.

Salinity in the Baltic Sea is only a fifth of the oceans' salinity. In deltas, such as in front of St Petersburg, the water is almost salt-free.

The Baltic Sea is shallow. The average depth is about 60 metres and the greatest depth is 459 metres, thus the total water volume is rather low.

The municipalities Vihti, Kirkkonummi, Hyvinkää and Mäntsälä and Espoo have the most lakes and rivers. Estimating the amount of lakes is complicated, because

the size of a lake cannot be determined in exact. According to one definition, a lake's area is usually over a hectare.

Characteristic to the nature in the Helsinki Region is the river Vantaanjoki. It is the main channel of the region's water system which starts from the southern Häme Region. The area of the catchment is 1,680 km<sup>2</sup> and it extends into 14 municipalities. The municipalities have over one million inhabitants, which is a quarter of all Finns. The population density is ten times the Finnish average.

The total length of the river Vantaanjoki and other long rivers exceeds 300 km. In addition to those, there are several short and narrow rivers and brooks. The river Vantaanjoki is about 100 km long and it flows into the sea in Helsinki in the Vanhankaupunginlahti bay.

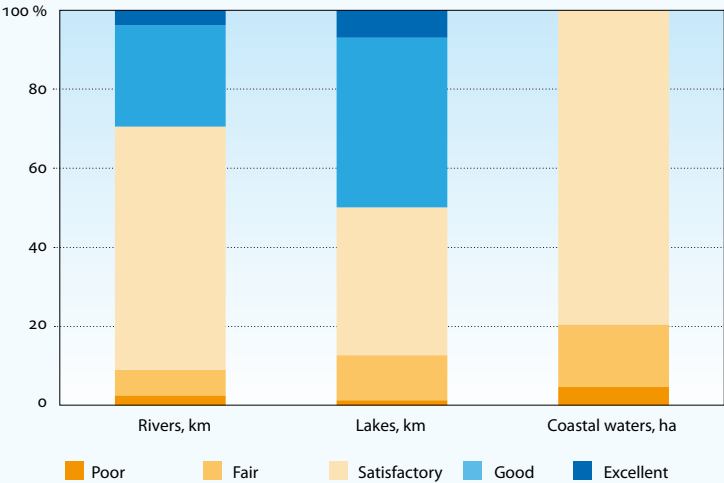
Quality of waters

On the coast and in the inland archipelago the quality of water is affected by the load from the rivers emptying into the area and by direct nutrient emissions into the sea. Coastal waters' sensitivity to eutrophication is increased by windless, shallow coastal areas and the minor water turnover. Also the state of the Gulf of Finland has an impact on the quality of water in coastal waters. In recent years, an extensive-ranging blue-green algae bloom has been a problem almost every summer.

In the populous Helsinki Region, people burden the water system with their usage of water. Furthermore, in many lakes the soil is lush and human action has increased the lushness even further. The quality of wa-

Helsingin kaupungin kuvapankki / Niko Soveri

Figure 2.1.2 State of surface waters by area and length in the area of Uusimaa Region Environment Centre in 2008



Source: Uusimaa Region Environment Centre

Kaivopuisto Park, Helsinki.



The State of Helsinki Region 2009 – European Comparisons



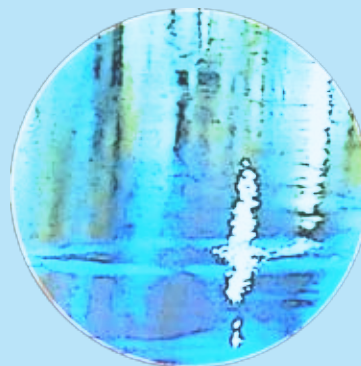
ter in the water system has been diluted by scattered loading of agriculture and, in places, waste water from population centres, scattered settlement and industry. In places lakes suffer from acidification which mainly originates from emissions from factories and traffic.

The ecological and chemical classification of waters provides an overview of the state of waters. According to the classification, lakes, rivers and coastal waters in the southern Finland are in worse state than on average in Finland. Of the classified waters, 70 per cent of the rivers and over half of the lakes are below a good ecological state. In the classification the state of waters is compared with waters in their natural state: the greater the changes are in comparison with the natural state, the worse the state of waters is. Specifically alarming is the fact that on the coast the majority of waters are only in tolerable or satisfactory state.

### Land and water areas may be used for recreation and outdoor activities

The green areas in the Helsinki Region are usually indigenous forests, and thus differ from European-style parks. In addition to natural forests, green areas may also include parks and recreation areas, nature reserves, such as national parks, cultural landscapes or green strips on streets. Green areas make residential, working and traffic areas more pleasant and provide the residents an opportunity to promote their health by doing outdoor activities.

Nature conservation aims at controlling the management and use of conservation ar-



Eutrophication is a problem in the Baltic Sea. It is a consequence of more than a century of nutrient loading caused by human activity. The loading is caused, for example, by habitation, industry, agriculture and forestry in the Baltic coast states. The heavy nutrient load causes an increase in the sea's basic production. Due to the richness of nutrients, the amount of microscopic plankton algae has increased: algal blooms have become more prevalent and the water more turbid. Eutrophication also causes the beaches and fishnets to become slimy. The vulnerable species of the Baltic Sea also suffer from eutrophication.

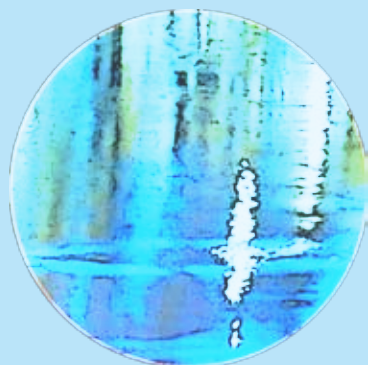
Harmful substances reach the Baltic Sea from many different sources. Oil spills release large amounts of hydrocarbons into the sea. Radioactive fall-out reaches the Baltic Sea both airborne and via water currents. Heavy metals cadmium, lead and mercury are immediately harmful to the environment.

Water in the Baltic Sea changes once in approx. 30 years, since the narrow and shallow Danish Straits are the only connection between the Baltic Sea, the North Sea and the Atlantic. Due to the slow turnover of harmful substances – permanent harmful substances, nutrients and

heavy metals in particular – remain in the Baltic Sea for a long time. This may worsen the problems harmful substances cause for vulnerable species in the Baltic Sea. Furthermore, coldness and the ice cover retard physical, chemical and biological degradation processes of harmful substances, such as oil. The temperature of the Baltic Sea fluctuates sharply in different seasons.

The fauna and flora of the Baltic Sea is rather peculiar: there are saline water species and fresh water species together with living relics. The number of species is relatively small, but certain species may exist in large numbers. The fauna and flora poor in species, consisting of simple food chains, is extremely vulnerable to changes in the environment.

The International Maritime Organization (IMO) granted the Baltic Sea a status of an extremely sensitive sea area in December 2005. Particularly Sensitive Sea Area (PSSA) classification may be granted to an area which due to its vulnerable characteristics is extremely sensitive to risks and damages caused by sea traffic. IMO has granted the same status for example to the Great Barrier Reef in Australia, the Canary Islands and the Galápagos Islands in Ecuador.



Everyman's right means that every person in Finland, also foreigners, have the opportunity to use the nature irrespective of who owns the area. Everyman's right means that access to the land is free of charge, and does not require the landowner's permission. People taking advantage of these rights are nevertheless obliged not to cause any damage or disturbance. Everyman's right is based on various laws, and in Finland it is a commonly accepted tradition.

In Finland you can, for instance, camp out rather freely as long as you stay at a reasonable distance from residential buildings. Equally, you can pick berries, mushrooms and flowers from nature. You can also fish with a rod and a line, go boating, swim and wash yourself in waters and also wander on ice. However, you may not drive motor vehicles off road without the landowner's permission nor fish or hunt without the relevant permits.

**Table 2.1.2 Area of built and gardened parks in the Helsinki Region in 2007**

	Area ha	Area ha/1,000 residents
Helsinki Region	2,544	29
Helsinki Metropolitan Area	1,999	10
Helsinki	935	2
Espoo	660	3
Vantaa	373	2
Kauniainen	31	4
Rest of Helsinki Region	545	20
Hyvinkää	49	1
Järvenpää	107	3
Kerava	70	2
Kirkkonummi	42	1
Mäntsälä	48	3
Nurmijärvi	41	1
Pornainen	13	3
Sipoo	39	2
Tuusula	104	3
Vihti	32	1
Uusimaa Region	3,074	2
Finland	14,881	3

Source: Statistics Finland

**Table 2.1.3 Areas reserved for nature conservation in municipalities of the Helsinki Metropolitan Area in 2008**

	Helsinki	Espoo	Vantaa	Kauniainen
Areas reserved for conservation, ha	770	1,900	1,442	27.5
Of the municipality area, %	1.1	3.6	6	4.6
Protected under the Nature Conservation Act, ha	..	..	830	..
Nature reserves, number	42	44	23	2
Protected biotypes, number	28	32	10	2
Habitat of specially protected species, number	4	4	1	1
Protected natural monument, number	31	53	35	..

Source: Lähde retkelle pääkaupunkiseudun luontoon. Retkikalenteri 2008

eas so that species, environment and nature types preserve and strengthen. It is hard to define the sufficient level of conservation. In southern Finland, where most of the Finns live, nature is evidently preserved only a little: the preserved area is only 3 per cent of the total area of Uusimaa. Whereas the proportion of Finland's largest conservation areas in Lapland is 12 per cent of the region's total area. Most of nature remains outside the conservation areas. This is why nature diversity must be taken into account among others in designing the land use, in using the land and in agriculture and forestry.

*Vanhakaupunki Bird Wetland, Helsinki.*

Helsingin kaupungin kuvapankki / Mika Lappalainen



The Nuuksio National Park is located only 30 km away from the Helsinki city centre in the municipalities of Espoo, Vihti and Kirkkonummi. The national park lies in the western part of the Nuuksio lake uplands, which is a very popular area for camping and recreation. The area has remained rather wild despite the closeness of the Helsinki Metropolitan Area.

Flying Squirrels (*Pteromys volans*) appear in Nuuksio perhaps more frequently than anywhere else in Finland. The versatile nature in Nuuksio offers a habitat for many endangered species of animals and plants. 87 endangered species have been found in the lake uplands. Among those are also 29 species which, according to the European Union directives, are to be protected or whose habitat may not be deteriorated.

Vanhakaupunki Bird Wetland in the surroundings of Vanhakaupunki bay is the most valuable bird area in Helsinki. It is a paradise in the city's geographical centre and one of the most important conservation areas on the coast of Finland. On the edge of wetlands along the paths and footbridges there are bird watching towers and a hide-

away cabin, where birdwatchers can spot birds. Tens of thousands of migrating birds eat and rest here in the Viikki-Vanhankaupunginlahden bay and in the fields of Viikki in spring and autumn. Map guides, nature trails, brochures on the area and guided expeditions facilitate familiarising oneself with the area. The area focuses on combining recreation and nature conservation. Besides its natural value, the area is also an important part of the landscape in Helsinki.

Vantaanjoki waters are an important area for recreation and outdoor activities in the Helsinki Metropolitan Area and Helsinki Region. The river has rapids, and along the river there are nature trails. On the banks there are several attractions which you can visit by cycling, hiking, skiing or paddling. Old mansions, cultural landscapes and mill and dam structures in the river area remind of old settlement and industry history.

There are areas for recreation and outdoor activities in the archipelago, as well. A certain country idyll in Helsinki can be reached by boat. On Kaunissaari island, boaters, campers and other visitors can enjoy a day off on warm rocks smelling the fresh sea air.

## 2.2 Visits from Europe and elsewhere and vice versa

### Number of air travellers has rapidly increased

The Helsinki Region is the most important international traffic hub in Finland. Yearly over five million passengers depart from and arrive at the Helsinki-Vantaa Airport on international flights. The number of passengers has rapidly increased and so has the the international awareness of the airport. As recently as ten years ago, the number of arriving and departing passengers was 2.5 million and ten years before that, only 1.4 million.

For the first time there were over 13 million passengers at Helsinki-Vantaa Airport in 2007. There were approx. 2.9 million do-

mestic passengers and 10.2 million international passengers. Between 2000 and 2007 the total number of passengers increased by over 3.1 million passengers. The number of domestic passengers has remained stable, approx. 2.8–3.0 million. The passenger growth results nearly totally from increased international traffic.

### Helsinki-Vantaa is a transit gateway for regular flights between America and Asia

Helsinki-Vantaa Airport is Scandinavia's leading airport for long-distance flights

in terms of the number of destinations. The transit traffic growth to and from Asia in particular explains the high increase in air traffic. There are fast and direct connections to 11 destinations in Asia. From Helsinki there are daily flights to New York as well, thus the shortest way from New York to Asia goes via Helsinki-Vantaa. In all, there are flights to over 120 destinations around the world, ranking the airport second in Scandinavia.

All connections are frequently operated. There are 1,100 international and 700 domestic flights from Helsinki-Vantaa every week.

Figure 2.2.1 Passengers at Helsinki-Vantaa airport 1990–2007

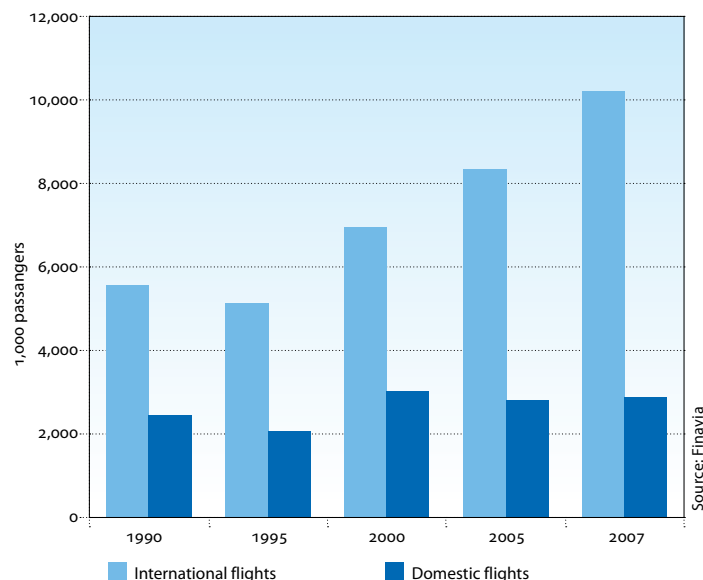




Figure 2.2.2 European cities at 1–3 hour flying distance from Helsinki-Vantaa airport in 2009



Figure 2.2.3 Main gateway destinations from Helsinki-Vantaa airport in 2009



Table 2.2.1 Passengers<sup>1</sup> on domestic and international flights at Helsinki-Vantaa airport 1990–2007

	1,000 passengers				
	1990	1995	2000	2005	2007
Domestic flights	2,462	2,089	3,043	2,804	2,875
Departures	1,208	1,037	1,516	1,997	1,430
Arrivals	1,254	1,052	1,527	1,407	1,445
International flights	5,546	5,132	6,967	8,29	10,204
Departures	2,819	2,595	3,523	4,172	5,148
Arrivals	2,727	2,537	3,444	4,157	5,056
Passengers total Hki-Vantaa	8,008	7,221	10,010	11,133	13,079
Passengers total Finland	11,564	9,857	13,864	15,180	17,312
% of all passengers to and from Finland	69.2	73.3	72.2	73.3	75.5

<sup>1</sup> Includes transfer and transit passengers.

Source: Finavia

## 2.3 Factors impacting air quality and climate

### Fine particles are the most harmful for health

The Helsinki Metropolitan Area is among the cleanest metropolitan areas in Europe in terms of air quality. Observatories in the Helsinki Metropolitan Area reported good or satisfactory air quality most of the time in 2007, and in all, the air quality was slightly better than in previous years. Also in the rest of Helsinki Region the air quality was mostly rather good despite of the heavy growth in housing and traffic.

High concentration of impurities decreasing the air quality, such as particles, nitrogen dioxide, ozone, carbon monoxide, benzene and sulphur dioxide, have a harmful impact on health, habitability and nature.

For health, the most harmful air pollution is fine particles originating from traffic, wood burning and other burning sources, part of which arrive from Central and Eastern Europe. On an European level the concentration of fine particles is low and below the EU's target value. However, damages have been reported already with the level of concentration in the Helsinki Metropolitan Area. Studies report similar health hazards to those reported in the most polluted cities in Europe.

In addition to particles also nitrogen dioxide concentrations may occasionally become very high in busy traffic areas in spring. Exceedings in nitrogen dioxide limit values result mainly from traffic emissions. In the future, emission rules shall tighten, but on the other hand, the amount of traffic is predicted to strongly increase.

### Carbon dioxide boosts climate change

All burning produces carbon dioxide emissions. Use of fossil fuels, carbon, natural gas and oil produces carbon dioxide. It is the most important gas that boosts the greenhouse effect by preventing heat from evaporating into the space and thus warming the climate. Carbon dioxide does not cause local damage to air quality.

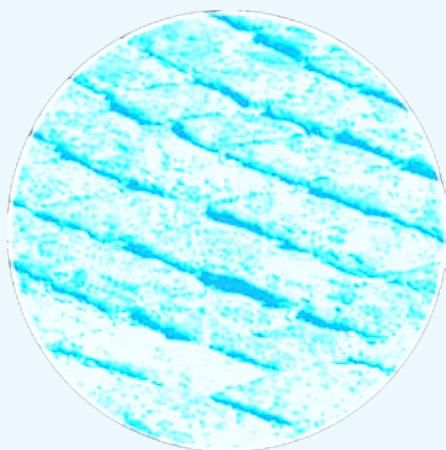
Greenhouse gas emissions have increased in the Helsinki Region from the 1990's level. The latest calculation has been made on the emissions of 2006. The biggest growth is seen in emissions originating from electric heating and other use of electricity. The greenhouse gas emissions originating from traffic have significantly increased, as well. The emissions from district heating production have remained rather stable, and industry emissions have decreased since 1990.

Car traffic lifts up particles from the road surface into the air. Exceedings in limit values of breathable particles mainly result from street dust. There is plenty of dust from the streets especially in spring, when the sun dries up the streets and particles, removed from the road surface during winter, ground from sanding gravel and produced by cars, rise up into the air due to traffic and wind.

Fireplaces in small houses are also a significant source of particle emissions. Occasional reference values of particle concentration are exceeded not only in the Helsinki Metropolitan Area, but also in a few other population centres in the Helsinki Region.



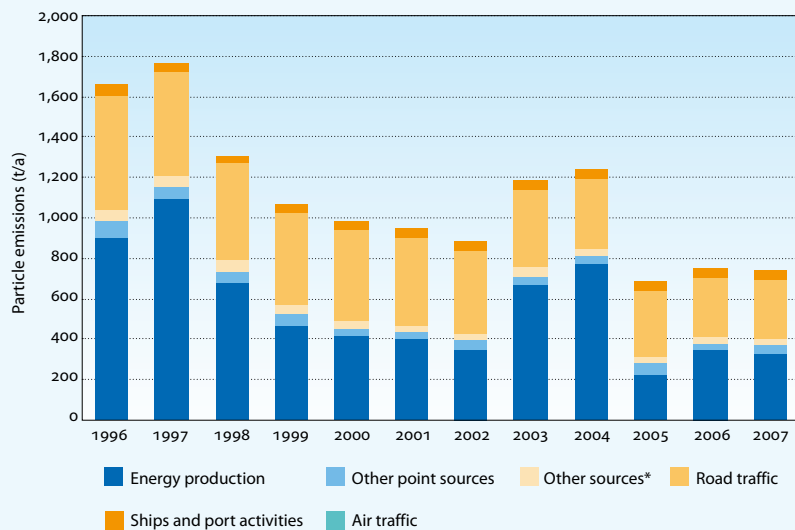
Helsingin kaupungin kuvapankki / Matti Tiiri



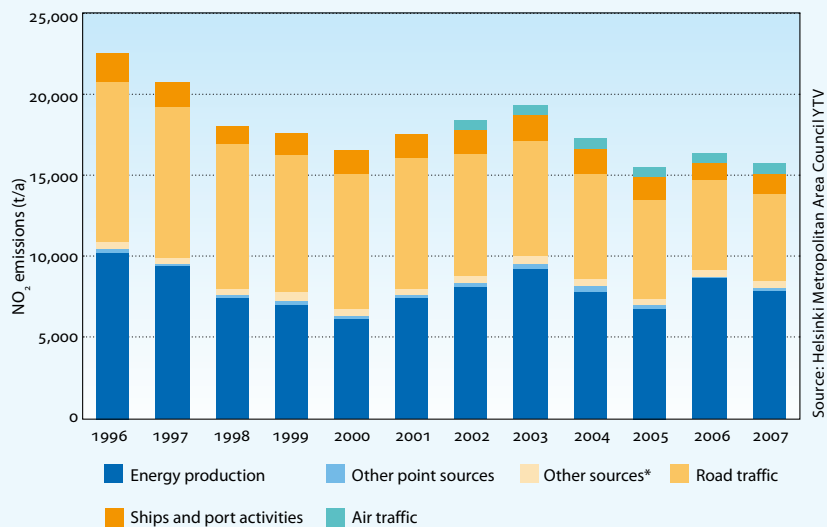
*Mannerheim Street, Helsinki.*



*Figure 2.3.1 Particle and nitrogen dioxide emissions in the Helsinki Metropolitan Area in 1996–2007*



\* Small-scale combustion of wood and light fuel oil in residential areas.



Source: Helsinki Metropolitan Area Council/YTV

\* Small-scale combustion of wood and light fuel oil in residential areas.

## 2.4 Climate, seasons and daylight variations

### Climate has features of maritime and continental climate

The main factor influencing the climate in the Helsinki Region and in the whole of Finland is the country's geographical position between the latitudes 60 and 70 on the northwest edge of the Eurasian continent. The climate shows characteristics of both a maritime and a continental climate, depending on the direction of airflow and high/low pressure.

The average temperature in the Helsinki Region as in the whole of Finland is several degrees higher than in other land areas on the same parallel zone. The temperature is influenced by the Baltic Sea with its bays, inland waterways and particularly by the air flow from the Atlantic and the Barents Sea warmed by the Gulf Stream. Weather types fluctuate rapidly especially in winter.

### There are four seasons

Characteristic to the nature in the Helsinki Region, as in the whole of Finland, are distinct climatic variations between seasons. On different seasons the same landscape seems very different. Seasons are distinguished according to a so called thermal division, where daily mean temperatures differ from each other. However, the limits and lengths of seasons can vary greatly from year to year. Furthermore, the length of thermal seasons vary in different parts of the country.

In southern Finland, such as in the Helsinki Region, spring begins in early April, and later in April elsewhere in Finland. The growing season begins in southern Finland about a month after the beginning of thermal spring. Spring is the shortest of seasons and it lasts only about 6–9 weeks. Due to the chilly sea, spring continues furthest in the coastal area and archipelago.

Summer usually arrives to a wide area of southern Finland in late May, and it lasts until mid-September. On the southern coast of Finland, e.g. in the Helsinki Region, summer is usually about a month longer both in spring and autumn than in the northern parts of the country.

The warmest day of the year comes about around the 20th July in the whole of Finland. The highest summer temperatures in the Finnish continent are 32–35°C.

Near the sea and in the archipelago, temperatures over 30°C are extremely rare. The highest temperature ever recorded in Helsinki is 31.6°C (1945).

Autumn usually begins around the 20th September in the Helsinki Region. The growing season ends in autumn, when the mean daily temperature drops below 5°C.

Winter lasts for about 100 days in southwestern Finland and the Helsinki Region, and 200 days in Lapland. Winter is the longest season. In winter, the mean daily temperature remains below 0°C, but warm airflows can raise the daily high above 0°C at times.

Permanent snow falls on open ground about two weeks after winter begins. Complete and permanent snow fell in Helsinki on average on the 15th November in 1971–2000. The deepest snow cover in the centre of Helsinki was recorded in 1976 (71 cm).

The coldest day of winter comes at the end of January everywhere except in the archipelago and coastal regions, where the slower cooling of the sea delays the coldest period until the first two weeks of February. In the archipelago and the coastal region the lowest temperatures in winter are from -25°C to -35°C. The lowest temperature recorded in Helsinki is -34.3°C (1987).

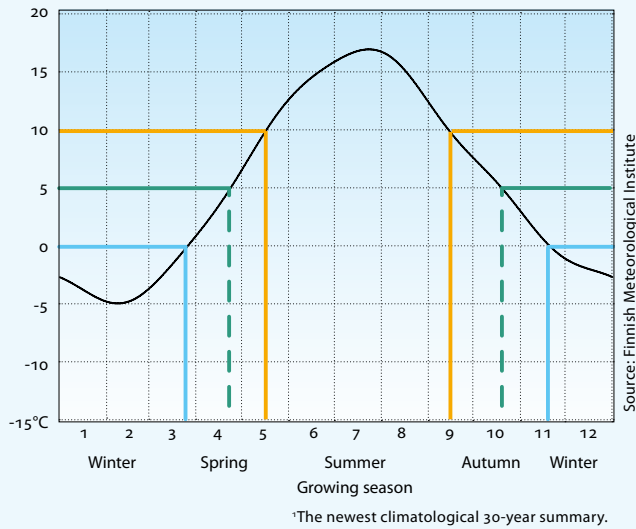
### Length of daytime varies during different seasons

The length of daytime varies during different seasons. In southern Finland and in the Helsinki Region, daylight lasts almost for 19 hours around Midsummer. It does not get dark, not even during the night. Instead, it only becomes a little dimmer. Around Christmas, however, there is hardly 6 hours of daylight, when the days are at their shortest.

The number of sunshine hours per month, recorded at Helsinki-Vantaa, was on average 1,742 hours during 1971–2000 and in 2006 no fewer than 1,980 hours. In terms of sunshine hours, Helsinki bears comparison with other European capitals.



Figure 2.4.1 Lengths of thermal seasons in southern Finland at Helsinki-Vantaa Airport in 1971–2000<sup>1</sup>



In Finland it is

- thermal spring, when mean daily temperature remains between 0 and 10 degrees Celsius.
- thermal summer, when mean daily temperature remains above 10 degrees Celsius.
- thermal autumn, when mean daily temperature remains between 10 and 0 degrees Celsius.
- thermal winter, when mean daily temperature remains below 0 degrees Celsius.

Figure 2.4.2 The Beginning of Thermal Seasons in different parts of Finland in 1971–2000<sup>1</sup>

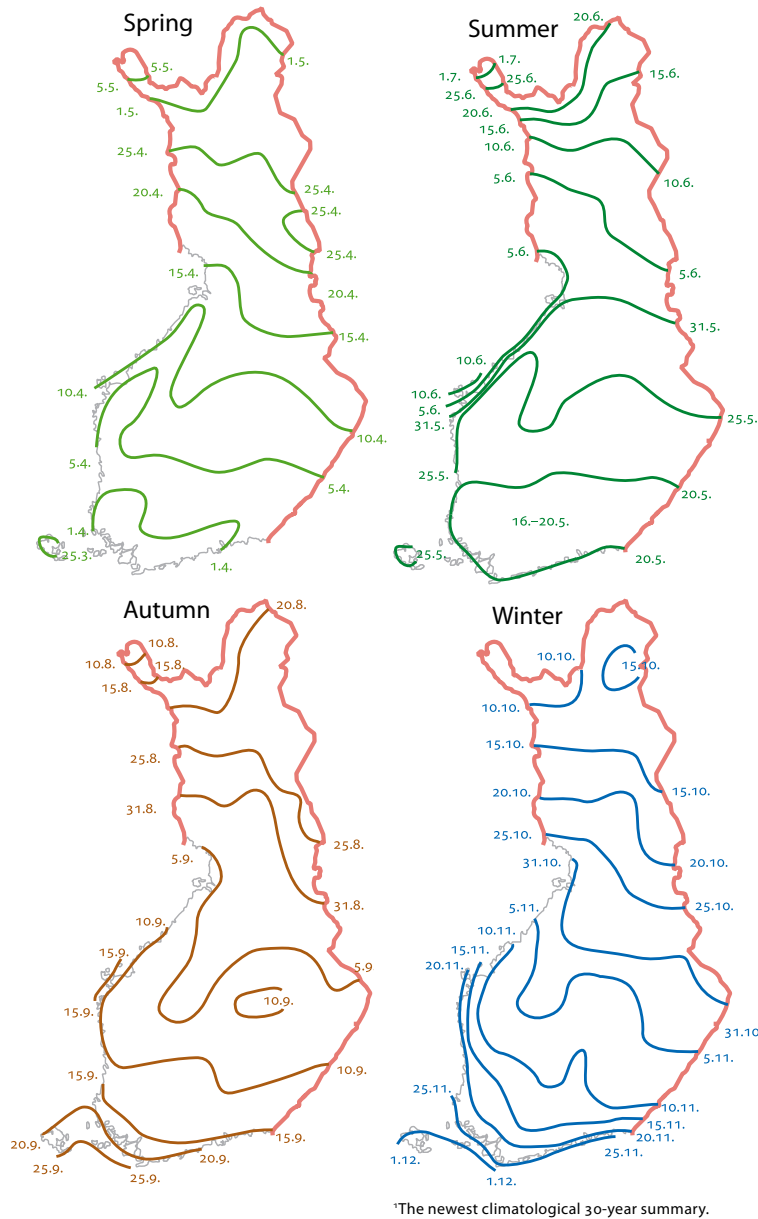


Figure 2.4.3 Monthly mean temperatures at Helsinki City Centre Weather Station in 1971–2000<sup>1</sup>

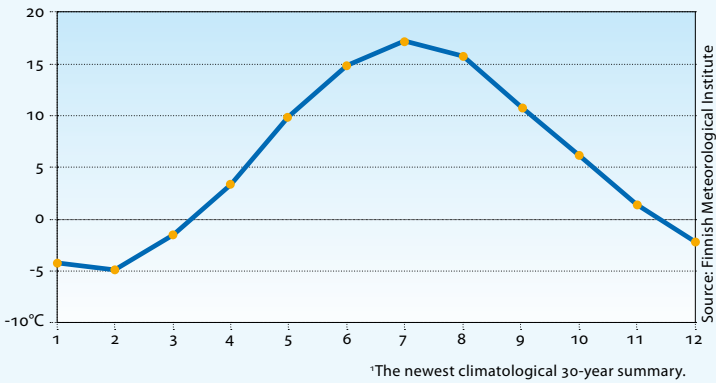


Figure 2.4.4 Monthly sunshine hour averages in Helsinki in 1971–2000<sup>1</sup>

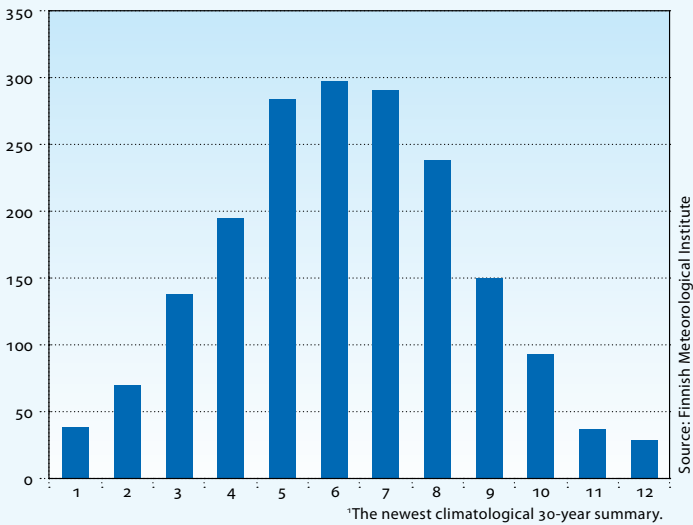
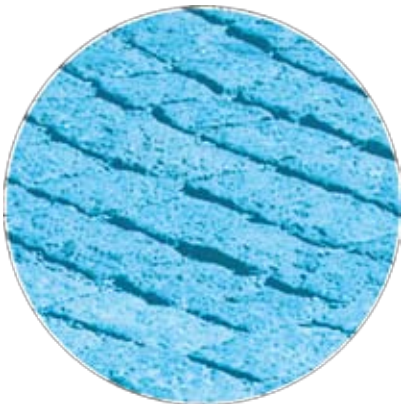


Table 2.4.1 Length of daylight in Helsinki in 2008

Date	Sunrise at	Sunset at	Length of the day
Vernal equinox 20 March 2008	6.21	18.35	12 h 14 min
Summer solstice 21 June 2008	3.54	22.50	18 h 56 min
Autumn equinox 22 September 2008	7.05	19.19	12 h 14 min
Winter solstice 21 December 2008	9.24	15.13	5 h 49 min

Source: almanakka.helsinki.fi



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*The State of Helsinki Region 2009 – European Comparisons* anchors the development of the Helsinki Region to the mutual comparison between European regions. The publication tells about

- Population
- Housing
- Living conditions
- Culture and adult education
- Traffic and transportation
- Economy and industries

The second part concentrates on the three natural elements, earth, water and air. Along with the elemental theme, it studies – among other things – the characteristics of the soil and waters of the Helsinki Region.



The publication is also available at [www.hel.fi/tietokeskus](http://www.hel.fi/tietokeskus)