Cities in the Netherlands
Facts and figures on cities and urban areas
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Introduction

In the Netherlands, about three quarters of the population live in urban areas and most people work there. The largest metropolitan areas also show the strongest population growth. In 2015, the Dutch Government launched its Agenda Stad, a national urban agenda. Agenda Stad aims to promote economic growth, improve liveability and stimulate innovation in urban areas. The Dutch urban agenda affirms that cities play a key role in the future development of the country.

What is going on in Dutch cities? This book strives to provide insight into the most important facts and factors affecting our cities in an accessible way. How have cities developed in the recent past? How many people live and work in cities and their environs? And how does the structure of Dutch cities compare to those in other European countries?

This book covers three topics that are vital for the city: economy, liveability, and innovation. How strong is the gravitational pull of Dutch cities in comparison to competing urban regions? What factors determine liveability and health in cities? And how do cities fare when it comes to innovation? These urban issues, challenges and opportunities are clarified using 12 infographics.

This publication consists of two parts. This part, Cities in the Netherlands, examines cities in the context of the Dutch Agenda Stad. The other part, Cities in Europe, looks at urban developments across Europe within the context of the Europe 2020 strategy and the Urban Agenda for the EU.
Three priority areas of the Agenda Stad

Economy
- Job growth through innovation
- Circular economy
- Knowledge exchange

Innovation
- New technologies
- Sustainable mobility and urban environment
- Adaptation to climate change

Liveability
- Healthy and safe urban environment
- Affordable housing
- Access to education

Opportunities and challenges in urban areas that require collaboration between the national government, cities and other stakeholders lie at the heart of the Dutch Agenda Stad. These are often complex, radical and transitional challenges that do not fit in existing policy frames. This collaboration takes shape in City Deals. City Deals contain concrete cooperation arrangements between different levels of government, business, civil society and other stakeholders. Coalition building in City Deals is a means to achieve the goals of the Dutch national Agenda Stad, which is to strengthen economic growth, innovation and liveability in Dutch cities. The Dutch national Agenda Stad and the Urban Agenda for the EU are in line with each other. The national agenda can be an example of an innovative way of collaboration for other European countries and cities, while at the same time Dutch cities can learn from the way other European cities deal with major urban challenges.

Europe faces increasing urbanisation which brings both opportunities and challenges. Major urban challenges manifest themselves within a variety of societal domains, such as climate adaptation, inclusion of low-income groups, and new economic drivers. Business, local governments, civil society and universities in urban areas are anticipating on these opportunities and challenges. The Dutch national Agenda Stad focuses on the overlapping areas of economy, liveability and innovation.

Urban economies are more productive, grow faster and have a greater innovative potential. Dutch cities lag behind in growth of labour productivity however. Their economic position can be strengthened by improving connections between urban regions, coordinating investment projects and increasing the complementarity between cities.

The liveability of Dutch cities has improved dramatically over the past few decades. Local problems regarding air pollution, traffic congestion, income disparities and safety still remain however. Cities can contribute to improving the liveability by investing in sustainable mobility schemes, affordable housing and quality of the public space.

Urban regions are incubators of innovation and entrepreneurship. It is here where individuals, businesses, institutes and governments meet and profit from each others’ knowledge and creativity. Smart and clean technologies are vital for sustaining economic growth over the long term. Using up resources and energy at current rates is no longer an option.
The Netherlands is a highly urbanised country. At the same time, the share of the population that lives in large metropolitan areas (over 500,000 people) is remarkably small. The majority of Dutch ‘urbanites’ live in small and medium-sized towns. This is the result of the polycentric urban structure of the Netherlands; most urban regions are made up of multiple urban cores at relatively short distances from each another.

The roots of our modern polycentric urban structure can be traced back to medieval times. Twenty of the 35 largest Dutch cities originate from the 11th to 15th century, mainly as towns with important ports. While, in the 19th century, large parts of Europe struggled with epidemics and an economic recession, parts of what is now the Netherlands experienced an economic peak and urban boom. After this period up to the mid 19th century, some cities, especially in the west of the country expanded greatly (e.g. Amsterdam and Rotterdam), while others contracted. In the second half of the 19th century, after a period of stagnation and contraction, a new era dawned; growth resumed in existing towns and, for the first time since the Middle Ages and in the wake of industrialisation and railroad construction, new towns were being formed (e.g. Eindhoven and Tilburg) (Rutte and Abrahamse, 2016).

Currently, after an extended period of suburbanisation and urban decline in the 1960–1990 period, cities are regaining their former status. City centres in particular have enjoyed a resurgence of population growth, especially regarding families with children (Evers et al., 2015). The outlook for the future is also favourable. CBS/PBL (2013) predict a strong concentration of population growth in urban municipalities, particularly in and around big cities.

Population change, 2000–2014
On a grid of 2x2 kilometres
Source: CBS, adaptation by PBL

Cities are popular

1. Amsterdam +73,000
2. The Hague +61,000
3. Rotterdam +12,000
4. Arnhem +14,000
5. Eindhoven +19,000
6. Utrecht +71,000
7. Groningen +25,000
In the past, it was easy to tell where the city ended and countryside began. In the course of the 20th century, the difference between urban and rural became increasingly blurred. Cities have transformed into urban regions with a wide variety of spaces and functions. People have also become much more mobile and have adopted much more complex lifestyles in their work and leisure time.

In order to define and delineate urban areas, Eurostat and the OECD use a harmonised definition that makes a distinction between ‘cities’ (municipalities of more than 50,000 residents) and ‘commuting zones’ (municipalities with a significant commuting relationship to the urban cores). Almost three quarters of the Dutch population live in urban areas, making the Netherlands one of the most urbanised countries in Europe.

Most of the jobs in the Netherlands can be found in the urban areas. These also have the highest share of knowledge workers and attract the most foreign immigrants. The high population density and concentration of human activity in cities has disadvantages as well, for example, in terms of air pollution and waste.

In relationship to the land area, PM$_{10}$ emission levels in cities are four times higher than in rural areas.

Important characteristics of the city

Source: CBS, LISA and RIVM, adaptation by PBL

- Land use
  - City: 13%
  - Commuting zone: 39%
  - Rural area: 48%

- Population
  - City: 44%
  - Commuting zone: 30%
  - Rural area: 26%

- Jobs
  - City: 53%
  - Commuting zone: 24%
  - Rural area: 23%

- Knowledge workers
  - City: 62%
  - Commuting zone: 20%
  - Rural area: 18%

- Immigration
  - City: 68%
  - Commuting zone: 18%
  - Rural area: 14%

- Household use of natural gas
  - City: 40%
  - Commuting zone: 32%
  - Rural area: 28%

- Household waste
  - City: 50%
  - Commuting zone: 27%
  - Rural area: 23%

- PM$_{10}$ emissions
  - City: 33%
  - Commuting zone: 29%
  - Rural area: 38%
Over the past 15 years, most Dutch municipalities experienced population growth. This mainly occurred in the suburbs and new towns, such as Almere and Houten, but large cities, such as Amsterdam, Utrecht and The Hague, also had substantial increases in population. There are also municipalities where growth has been negative. In about 10% of Dutch municipalities, the number of inhabitants actually decreased by over 2.5%, since 1997. Municipalities with the largest population decline are situated on the national periphery.

Population decline is expected to become more prevalent in the future. Over the next 15 years, about a quarter of Dutch municipalities is projected to shrink by more than 2.5%, with most of them located in peripheral areas (CBS/PBL, 2013). Decline will not be confined to these regions, however; also some less accessible ‘inland peripheries’, such as the Green Heart, will be affected. The large cities are expected to consolidate their position; with Amsterdam believed to remain the largest city, followed by Rotterdam.
The Netherlands is a densely populated country, and the Randstad is the most densely populated part of it. Almost half of the entire population lives in North Holland, South Holland, Utrecht and Flevoland, even though these provinces only comprise one quarter of the country’s surface area.

The Randstad’s population is currently growing faster than elsewhere in the country, as it has in the past and most likely will do in the future.

The current growth of the Randstad is even greater than in the past. Immigrants exceed emigrants in number (positive foreign migration balance) and more Dutch people move to rather than away from the Randstad (positive domestic migration balance). In addition, more people are being born in the Randstad than are dying (positive natural growth).

The Randstad is booming. In just five years (2006–2010) it grew by 225,000 people, 70% of which can be attributed to natural growth. Immigration also plays an important role; approximately 15% of the population increase came from abroad and 10% from other areas in the Netherlands. The share of foreign immigrants is smaller than it has been in the past, and domestic migration has become more pronounced. Many of these domestic newcomers originate from the southern part of the country.

Past 1982–1986
- Randstad + 180,000
- Southern Netherlands + 70,000
- Randstad + 15,000
- Eastern Netherlands + 30,000
- Present 2006–2010
- Randstad + 25,000
- Southern Netherlands + 17,000
- Randstad + 50,000
- Eastern Netherlands + 30,000
- Future 2016–2030
- Randstad + 10,000
- Eastern Netherlands + 15,000
- Randstad + 170,000

Population growth and migration flows per region, 2006–2010
Source: CBS, adaptation by PBL

The gravitational pull of the Randstad

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Dutch inhabitants with a non-native background predominantly live in large cities

Imigrants and migrants prefer to settle in larger cities because of the ample job opportunities. Furthermore, for immigrants, these cities have networks of compatriots and offer specific facilities, such as mosques, public baths and schools.

The urban population is a sundry mix of people from all kinds of places. At present, the share of residents with a non-native background in the four largest cities (Amsterdam, Rotterdam, The Hague and Utrecht) is roughly equal to that of native residents. In other parts of the country, this share is smaller. The Netherlands has a history of attracting immigrants, most of whom arrive in the Randstad and mostly in the four large cities. Already in the 1960s and 1970s, so-called guest workers came to the Randstad from southern Europe, Turkey and Morocco. Many people from Suriname arrived in the late 1970s, following this former colony’s independence. The 1980s and 1990s saw many family reunions of guest workers; their wives and children moved to the Netherlands to join them and any subsequent children were born here. Many of their children would later seek a partner from their parents’ homeland. In the 1990s, a growing number of refugees from former Yugoslavia arrived in the Randstad, as well as from other areas; all fleeing war, famine or natural disasters. In the 2000s, many immigrants originated from central and eastern Europe, as a result of European Union enlargement.

Relatively few inhabitants with a non-native background live outside the largest cities. And many of those live in close proximity to the four largest cities, in suburbs and satellite cities, such as Almere.

In the Netherlands, one in five inhabitants has a non-native background, almost half of which have a western non-native background.

The Netherlands

Western, non-native background

Non-native background

Non-western background

Rest of the Netherlands

Immigration and emigration for the four largest cities

(Amsterdam, Rotterdam, The Hague, Utrecht)

Source: CBS, adaptation by PBL

Immigration and emigration for the four largest cities

(Amsterdam, Rotterdam, The Hague, Utrecht)

Source: CBS, adaptation by PBL

Following the enlargement of the European Union, the number of central and eastern European immigrants increased.

After a stricter Immigration Law came into effect, emigrants outnumbered immigrants, for a number of years.

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Cities are where the jobs are

Cities play an important role as meeting places in knowledge-based economies such as that of the Netherlands. Personal encounters, whether planned or accidental, provide opportunities for the exchange of ideas and for learning from one another. The density of cities makes people more productive and enables the provision of higher quality and more varied services and amenities. Companies primarily locate in cities to be in close proximity to their customers and specialized suppliers, and because of the large and well-educated labour market and the many opportunities for cooperation. Business clusters create new job markets and opportunities for suppliers, which may create additional agglomeration benefits. In short, cities are where the jobs are.

Job growth in the four largest urban regions

There are significant differences between cities. Amsterdam and Utrecht had the strongest job growth over the 1980–2012 period, whereas in Rotterdam and The Hague growth was more modest. In 1980, most jobs were in the Rotterdam region. Now, most are in Amsterdam and Utrecht.

Employment by urban-rural typology

Employment density, 2012
Number of jobs on a grid of 2x2 kilometres
Source: LISA, adaptation by PBL
Employment growth and labour productivity growth are important indicators of economic development. In European cities and cities in OECD countries, productivity and wages generally increase with city size (European Commission, 2014). Recent OECD estimates suggest that productivity increases by 2% to 5% for every doubling of the population (Ahrend et al., 2015). In Europe, the two largest urban agglomerations, London and Paris, showed large labour productivity growth between 1980 and 2011.

Dutch urban regions, in contrast, are smaller and less dense in terms of residents and jobs. While employment in Dutch urban areas clearly grew between 1980 and 2011, productivity growth was smaller than in many other European urban regions. Recent research has shown that size and density can be partly compensated by a good position within international, national and regional networks (Van Oort et al., 2015). This position can be strengthened by improving connections between urban regions, coordinating large investment projects and increasing the complementarity between cities.
Household incomes vary not only between cities, but within them as well. The maps of Amsterdam, The Hague and Arnhem display different distributions of wealth. In Amsterdam, high-income households occupy the historic centre and the regal ‘old-south’ neighbourhood, while The Hague still displays the traditional ‘sand and peat divide’ where affluent neighbourhoods, such as Duinoord, Statenkwartier and Archipelbuurt, occupy the high sandy ground near the coast. Wealth in Arnhem is mainly concentrated at the northern edge of the city, near the Veluwe national park.

For inhabitants with a non-western background, the maps show this pattern more-or-less in reverse. In Amsterdam, inhabitants with a non-western background mainly live in the south-eastern quarter and on the western fringe. In The Hague, in contrast, these inhabitants mainly live near the city centre, in neighbourhoods such as the Stationsbuurt, Schilderswijk and Transvaal. Arnhem has fewer inhabitants with a non-western background, but these tend to reside on the eastern side of the city centre and on the south bank of the river. Of course, there are also low-income neighbourhoods with primarily native Dutch residents, such as Morgenstond in The Hague and parts of Amsterdam Noord.

Source: CBS, adaptation by PBL
The liveability and safety of Dutch cities have improved tremendously over the past few decades. Transport and manufacturing have become safer, cleaner, and less noisy. Levels of hazardous substances, such as nitric oxide and nitrogen dioxide (NOx), sulphur dioxide (SO2) and fine particulate matter (PM10), have decreased, dramatically, as has the crime rate, both real and perceived.

Crime, nuisance and feelings of unsafety, of course, have not gone away completely (CBS, 2014). This is especially true in the four large cities, but sometimes small towns, suburbs and rural areas are also plagued by ‘urban problems’. On average, inhabitants of large cities are less healthy and live shorter lives. This is mainly linked to the relatively large number of low-income people with a low level of education who tend to live in social housing in the least attractive neighbourhoods. Low educated people have substantially shorter lifespans than the highly educated, partly because they have not learned how to take care of their health, e.g. by healthy food and sufficient exercise (RIVM, 2014). Other factors may include unhealthy work environments or time schedules, and the costs of fresh food and fitness. Life expectancy in well-to-do urban neighbourhoods with highly educated residents, in contrast, tends to be long.

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Urban regions are incubators for innovation and entrepreneurship. These areas are vital for the Dutch economy, which needs to learn to become much more efficient with natural resources and energy, in order to remain competitive. Smart and clean technologies offer economic opportunities; the global demand for energy-efficient technologies and sustainable products is growing rapidly (PBL, 2014a).

Start-ups are important for innovation and growth, but they often don’t survive after the first phase of initiation. Instead of conquering the market with their innovative idea or product, they get stuck in the ‘valley of death’, a phase in which a start-up firm will die off before a steady stream of revenue is established. ‘Green’ start-ups have a particularly hard time overcoming this hurdle. A clearer long-term ambition for greening the economy and investments in green funds may help companies traverse this ‘valley of death’.

Cities are at the forefront of the transition towards a green economy. Urban citizens and civic entrepreneurs are launching all kinds of sustainability initiatives. Businesses and research institutes dealing with green innovation are highly clustered in the large urban agglomerations. Their knowledge, creativity and efforts offer opportunities for innovation and green growth.
A day in the life of Amsterdam

The city of Amsterdam changes day by day. Population numbers have increased since the 1990s, and this trend is expected to continue well into the 21st century. Amsterdam was not always this popular. In the 1970s and 1980s, many families turned their backs on the small city apartments in favour of single-family dwellings in suburbs or new towns such as Alkmaar, Hoofddorp, Hoorn, Purmerend, Lelystad and Almere. Many businesses also vacated the city for accessible locations along the motorways where space was cheap and plentiful.

The tide turned in the 1990s. Amsterdam became more attractive for young people and families. Trendy neighbourhoods, such as the Jordaan, began to attract young, well-educated and well-paid people, who valued the charming historic surroundings and copious cultural attractions over physical space. New urban redevelopment projects were developed on both the western and eastern side of the city. On a typical day in 2010, approximately 30 children were born in Amsterdam and about 15 people died. In addition to the positive natural population growth, the influx of people from elsewhere in the country also boosted Amsterdam’s population. Approximately 90 people moved to Amsterdam on any given day in 2010, while only 80 left the city. In addition, about 55 foreign immigrants arrived, 10 more than decided to emigrate on that day. At the end of the day, each day, Amsterdam grew by 34 people. Between 1980 and 2010, the population in Amsterdam increased from 715,000 to 790,000. It is expected that Amsterdam will stay a popular place of residence in the future and that the city will reach a population of around 925,000 inhabitants by 2040.
Appendix

All infographics in Cities in the Netherlands have been created and edited by PBL Netherlands Environmental Assessment Agency, and original manuscripts have been published in the ‘Nederlandse bevolking in beeld’ (PBL, 2016a) and ‘De stad verbeeld’ (PBL, 2015b).

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The following sources were used:

Page 8 Cities are popular

This map on population growth is based on data provided by Statistics Netherlands (CBS). The future projection is based on calculations by PBL and CBS (2013).

Page 12 Less growth and more decline

This infographic on population growth and decline per municipality is based on data provided by Statistics Netherlands (CBS). The future projection is based on calculations by PBL and CBS (2013). More information can be found here: http://www.pbl.nl/themasites/regiona-bevolkingsprognose

Page 14 The gravitational pull of the Randstad

The map on job density is based on data provided by Statistics Netherlands (CBS). The future projection is based on calculations by PBL and CBS (2013).

Page 16 Large cities attract migrants

This infographic on immigration and emigration in the four largest Dutch cities is based on data provided by Statistics Netherlands (CBS).

Page 18 Cities are where the jobs are

The current and hence the job growth is based on data provided by LISA. The classification of ‘Cities’, ‘Commuting zone’ and ‘Rural area’ is based on the definition by the OECD (2012). More information on the definition can be found here: http://www.oecd.org/regional/ redefining “Urban”: A new way to measure metropolitan areas.htm

Page 20 Economic growth has many faces

This infographic on employment growth and productivity growth is based on data from the European Regional Database provided by Cambridge Econometrics (version April 2015). The European Regional Database contains socioeconomic data for EU regions and cities. The data is based on data provided by Statistics Netherlands (CBS).

Page 22 Income disparities in the city and the region

This infographic on income disparities in the city and the regionale bevolkingsprognose can be found here: http://www.pbl.nl/themasites/regiona-bevolkingsprognose

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