

Methodological manual on city statistics

2017 edition



Methodological manual | **2017 edition**
on city statistics

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1

Introduction

There is a growing demand for an assessment of the **quality of life in European cities**, where a significant proportion of European Union citizens live. The City Statistics data collection is a joint effort by the Directorate-General for Regional and Urban Policy (DG REGIO), the National Statistical Institutes and Eurostat to provide reliable and comparative information on selected urban areas in Member States of the European Union, in Candidate Countries, in Switzerland and in Norway. Comparisons of cities by regional, national and European agencies as well as between the cities themselves, as well as disparities within cities are very useful, not to say crucial, for policy measures.

This *methodological manual of city statistics* aims to provide data suppliers with the necessary information to achieve coherence and comparability of the data collected, and to support users in understanding and interpreting the meaning of the data for their own purposes.

The core part of the *methodological manual of city statistics* is the 'Glossary' chapter, where the individual variables and indicators are defined and described together with concrete examples. In addition to the 'Glossary', complementary information on the data quality and methodology as well as explanations on the spatial dimensions and coding system are given in order to guarantee a harmonised and comparable dataset.

This *methodological manual on city statistics* is an update of the former *Urban audit – methodological handbook* and should be seen as a document that will develop over time according to new requirements on city statistics and according to the new or improved possibilities of delivering specific data that were not available or not exploited before. The latest version should be used as a guideline during the current data collection.

2

History and future

2.1 The past

Since its first collection at the end of the 1990s in the form of a pilot project, which has since been followed by several data collection rounds mainly executed by the National Statistical Institutes (NSIs), the City Statistics data collection has always been subject to modifications due to evident political demand (e.g. [Europe 2020 strategy](#), the revision of the General Regulation for the European Regional Development Fund) and progress in the European Statistical System (ESS). It has been improved by Eurostat on several occasions in cooperation with DG Regional and Urban Policy (DG REGIO) and the responsible institutions in the participating countries (mainly NSIs). These improvements have led to significant changes in the collection of data. They were on the one hand of qualitative and on the other hand of quantitative nature. With regards to the quality aspects, mainly the methods for the collection of individual variables have been harmonised. This allows a better comparison of variables for the different cities providing them. On the quantitative side, the number of cities and variables collected changed from one data collection round to the next.

In 1999, the Commission (DG REGIO) conducted a tentative data collection of comparable variables and indicators for European cities. The purpose of this data collection was to test the feasibility of collecting comparable measurements of the quality of life in European cities. Over the entire EU (EU-15 at the time), around 480 variables were collected for the 58 largest cities – although London and Paris were omitted since they were considered too difficult to cope with in a test phase.

After completion of this pilot exercise, the Commission decided that there was a clear need to continue and improve this approach of collecting comparable information on urban development. However, it was felt that Eurostat and the European Statistical System (ESS) should organise the data collection and use the know-how of its experts in statistics.

The next data collection waves took place as follows:

- in 2003/2004 collecting data mainly for the reference year 2001,
- in 2006/2007 collecting data mainly for the reference year 2004,
- in 2009/2011 collecting data mainly for the reference year 2008,
- in 2012/2013 collecting data mainly for the reference year 2011,
- in 2014/2015 collecting data for the reference years 2013 and 2014,
- the 2016/2018 data collection is ongoing.

The data collections covered over 300 variables across a wide range of economic, demographic and social topics. The variables changed from wave to wave reflecting past experience and evolving policy needs. A small set of variables were collected for 1991 and 1996 and a few variables were also collected annually for the reference years 2005 and onwards. In the 2014/2015 data collection phase around 100 variables were collected for the reference years 2013 and 2014.

In 2015, the variables list to be used for the 2016/2018 data collection was announced and this manual provides details on those variables. In 2016, work started on further improvements to the variables list, taking into consideration the indicators defined for the Sustainable Development Goals.

To some extent, the geographical scope also changed between data collection waves. Overall, it covered cities in the EU-28 plus cities in Norway, Switzerland and Turkey.

On its website, Eurostat maintains a dedicated section on city statistics where useful links can be found⁽¹⁾.

The latest printed publication based on city data – Urban Europe – statistics on cities, towns and suburbs is available also online⁽²⁾.

2.2 A new challenge for City Statistics

The collected City Statistics is considered to be a major reference for policy making in the framework of Cohesion policy. In addition, the *Pact of Amsterdam* adopted in 2016 establishes the Urban Agenda for the EU. The Agenda calls for better regulation, better funding and better knowledge, including more reliable data for evidence-based policymaking. However, due to resource constraints in Member States and in Eurostat, re-thinking and consolidation of the data collection on cities have been required.

This consolidation led to:

- Simplification
- Clearer methodology
- Quality improvements (data coverage, reliability, comparability, etc.)
- Concentration on variables and indicators needed for policy making
- Reduction of the number of variables and indicators
- A harmonised definition of the cities in Europe
- Alignment with the new Sustainable Development Goals.

⁽¹⁾ <http://ec.europa.eu/eurostat/web/cities/overview>

⁽²⁾ <http://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-01-16-691>

3

Information on the methodology

3.1 Methodological guidelines

3.1.1 General aspects

Compared to previous data collection rounds, several methodological changes have been implemented, which were applicable from the start of the data collection round 2013/2014. They were decided upon in order to improve the quality of the data and to reduce the workload for the data providers. The main changes were:

- a reduction in the number of variables,
- the integration of new variables (of importance for EU policy) and their definitions into the data collection,
- the adaptation and harmonisation of variable names and definitions to/with regional and/or national data collections in order to improve data consistency and comparability,
- a new approach regarding the spatial dimension.

A detailed description of the new spatial approach and on variables and their definitions is provided in sections 4 and 6 respectively of this manual.

3.1.2 Data estimation

In a study (November 2010) performed by the **Österreichisches Institut für Raumplanung (ÖIR)**, estimation methods applied for the collection of the most important information of the City Statistics dataset were analysed. The following methods were identified:

Estimation for temporal gaps (i.e. data missing for a spatial unit for the reference year requested):

- Type 1: Variables with one or more reference years at City or Functional Urban Area (FUA) level and existing data at NUTS 3 (or FUA) level with minimum two reference years. In addition to the estimation, it is possible to double check results with existing data of similar variables ('affinity check').
 - Standard estimation: linear regression of data from higher or lower geo-reference level.
- Type 2: Variables with one or more reference years at City or FUA level and existing data at NUTS 3 (or FUA) or NUTS 2 level with minimum two reference years, which are part of a greater whole and therefore could be checked with an existing variable.
 - Linear regression of NUTS 3 data plus affinity check with reference variable.

- Type 3: Variables with one or more reference years at City or FUA level and existing data at NUTS 3 (or FUA) level with minimum two reference years.
 - Linear regression of NUTS 3 and NUTS 2 data plus check with reference variable: 'part of a greater whole'.

Estimation of geographical data gaps (data missing for a spatial unit for specific variables):

Spatial disaggregation is based on the assumption that data which are globally available for a region can be distributed within a region by using spatially differentiated parameters. The spatial division is usually carried out on a weighted sum function. The disaggregation of NUTS 3 data to a lower regional level has to consider clear dependencies of data and variables to base the estimation on. The missing value of a variable at the lower regional level (LAU 2) will be calculated on the basis of the existing NUTS 3 value according to the proportional LAU 2 values of the determinant variable. The restricted availability of LAU 2 data must be taken into account in the search for the determinant variable.

Irrespective of the estimation method, the data provider is requested to describe the estimation method for the calculation of each individual variable and add this information as metadata to the dataset.

Several national methodologies are already available.

- https://ec.europa.eu/eurostat/cros/content/trainings_en
- http://ec.europa.eu/eurostat/cache/metadata/Annexes/urb_esms_bg_an3.pdf
- http://ec.europa.eu/eurostat/cache/metadata/EN/urb_esms_ee.htm
- http://ec.europa.eu/eurostat/cache/metadata/EN/urb_esms_de.htm
- http://ec.europa.eu/eurostat/cache/metadata/Annexes/urb_esms_es_an1.pdf

Please also consult with Eurostat's main metadata file on City statistics as it is updated on a regular basis whenever new or updated national metadata files are delivered.

Please note that only scientifically proven estimation methods are acceptable for which a reference in research papers can be found.

3.2 Metadata

Reference metadata provide general and detailed information on both the content and the quality of statistical data. They describe the context in which the statistical data are compiled, the methodology used for data collection and data aggregation, as well as various quality and dissemination characteristics.

Within the ESS, reference metadata are presented in files based on a standardised format called Euro SDMX Metadata Structure (ESMS). These files are associated to the datasets published by Eurostat on its website. As the name indicates, ESMS files are based on SDMX standards.

Metadata information should accompany the data delivery. For the production, management and exchange of national metadata files, the National Reference Metadata Editor (NRME) was used until the end of 2013. From January 2014, a new application – [ESS Metadata Handler \(ESS-MH\)](#) has been used by the Member States to produce, transmit and disseminate their national metadata files. This web application combined the former National Reference Metadata Editor (NRME) and the Explanatory Metadata Information System (EMIS) component; it also offers some enhanced functionalities.

4

Spatial dimension

4.1 The spatial system of city statistics

Until recently, there was no harmonised definition of a city for European and OECD countries. This undermined the comparability, and thus also the credibility, of international comparative analysis of cities. To resolve this problem, the OECD and the European Commission developed a new definition of a city and its commuting zone in 2011.

This new EC-OECD definition identified more than 900 cities with an urban centre of at least 50 000 inhabitants in the EU, Switzerland, Iceland and Norway. Each city is part of its own commuting zone or a polycentric commuting zone covering multiple cities. These commuting zones are significant, especially for larger cities. The cities and commuting zones put together are called Functional Urban Areas. For several urban centres stretching far beyond the city, a 'greater city' level was created to improve international comparability.

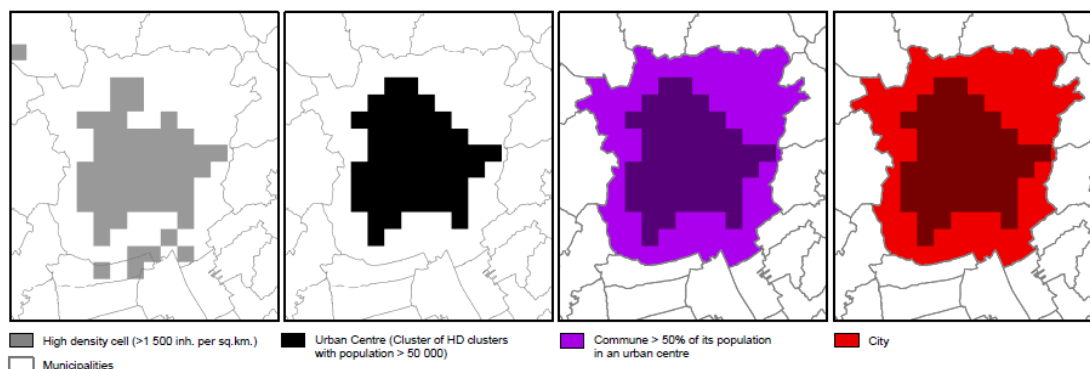
The spatial levels used:

- Functional Urban Area (FUA) - formerly known as Larger Urban Zone (LUZ)
- Greater City (formerly kernel)
- City (formerly core city)
- Sub City Districts level 1
- Sub City Districts level 2

4.2 Definition of a city

This new definition works in four basic steps and is based on the presence of an 'urban centre' a new spatial concept based on high-density population grid cells.

Figure 1: How to define a city



Step 1: All grid cells with a density of more than 1 500 inhabitants per sq. km are selected.

Step 2: The contiguous⁽³⁾ high-density cells are then clustered, gaps⁽⁴⁾ are filled and only the clusters with a minimum population of 50 000 inhabitants are kept as an 'urban centre'.

Step 3: All the municipalities (local administrative unit level 2 - LAU 2) with at least half their population inside the urban centre are selected as candidates to become part of the city.

Step 4: The city is defined ensuring that:

- a) there is a link to the political level,
- b) at least 50 % of the city population lives in an urban centre and;
- c) at least 75 % of the population of the urban centre lives in a city.

In most cases, as for example in Graz, the last step is not necessary as the city consists of a single municipality that covers the entire urban centre and the vast majority of the city residents live in that urban centre.

To ensure that this definition identified all the relevant centres, the NSIs were consulted and minor adjustments, consistent with this approach, were made where needed. For example: if a LAU boundary (or national border) crosses a grid cell, the population of the grid cell is usually assigned to the LAU where the grid centroid is located. NSIs are welcome however to provide more accurate information which can lead to a split of the population within the grid cell.

The degree of urbanisation and the city definition are likely to be highly stable over time in the European context (slow population change and a low speed of urbanisation). Therefore, the updates do not need to occur very frequently. Given the data requirements (population grid, commuting data), it should be updated at least once every decade.

If an NSI wants to, they can carry out an update of the degree of urbanisation after five years if a new grid is available. In case any LAU boundaries change, in this instance, an annual update of the degree of urbanisation is needed. If an NSI wishes to, it can apply the degree of urbanisation to a higher resolution grid (200m or 100m). Both approaches should lead to a consensus on the degree of urbanisation.

⁽³⁾ Contiguity for high-density clusters does not include the diagonal (i.e. cells with only the corners touching).

⁽⁴⁾ Gaps in the high-density cluster are filled using the majority rule iteratively. The majority rule means that if at least five out of the eight cells surrounding a cell belong to the same high-density cluster it will be added. This is repeated until no more cells are added.

In 2016, Eurostat carried out [the latest update](#) of the degree of urbanisation classification based on the 2011 European population grid and EBM 2014.

Following the update of the degree of urbanisation, an update of the city list was also required. Eurostat and the NSIs ensured that all LAUs that have code 1 in the degree of urbanisation classification are on the city list as cities or part of Greater cities.

4.3 Definition of a Functional Urban Area

The Functional Urban Area consists of the city and its commuting zone. Once all cities have been defined, a commuting zone can be identified based on commuting patterns using the following steps:

Step 1: If 15 % of employed persons living in one city work in another city, these cities are treated as connected cities. In this case, the first city is a part of the Functional Urban Area of the second city and does not have its own FUA. For example, more than 15 % of the employed persons living in the Bulgarian city of Pernik work in Sofia. That is why the city of Pernik belongs to the FUA of Sofia and FUA of Pernik has not been defined.

Step 2: All municipalities with at least 15 % of their employed residents working in a city are identified.

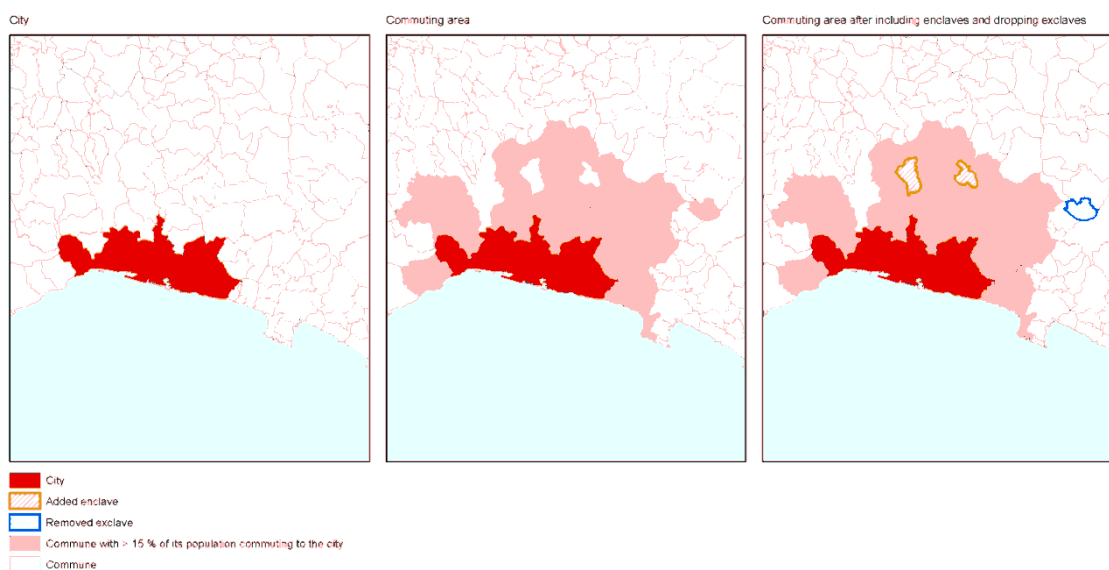
Step 3: Municipalities surrounded⁽⁵⁾ by a single functional area are included and non-contiguous municipalities are dropped.

If one municipality meets the criteria to be a part of the Functional Urban Areas of two cities, for instance, a municipality located between two large cities, it should be assigned to the FUA to which the higher percentage of the employed residents is commuting.

In the case of the Greater cities, commuting flows should be examined towards the entire greater city but not to the city.

Figure 2: How to define a commuting zone

City and its commuting zone (Genova)



⁽⁵⁾ Surrounded is defined as sharing at least 100 % of its land border with the functional area.

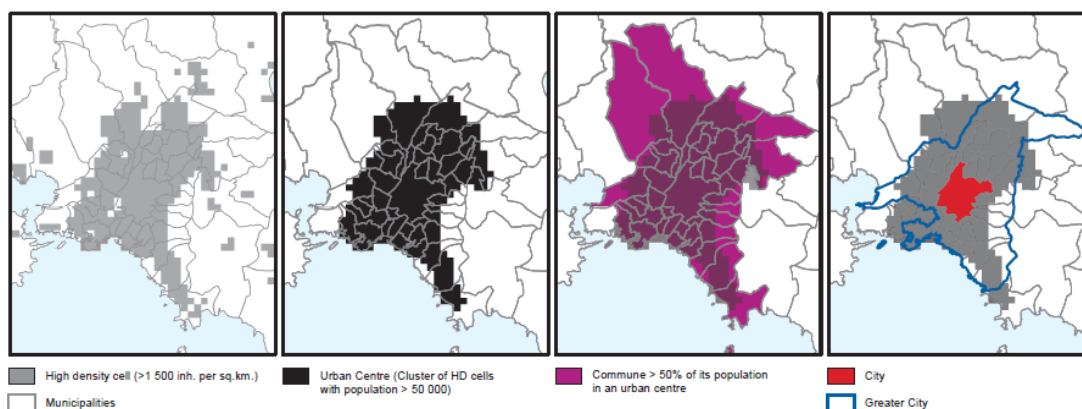
The commuting analysis should cover in principle all employed persons (including self-employed, civil servants and employees). Students should not be included in case that they are not commuting to work.

4.4 Definition of a Greater city

In some cases, the urban centre stretches far beyond its boundaries. To better capture the entire urban centre, a 'greater city' level can be created. This is a fairly common approach and several greater cities have already existed: Greater Manchester, Greater Nottingham etc. This level was created for some capitals and several other large cities. Based on the new clusters from the 2011 population grid, several new Greater cities were defined - for example, Madrid, Valencia, Sevilla, Elda, Granada, Puerto de la Cruz, Santa Cruz de Tenerife, Pamplona/Iruña and Igualada in Spain.

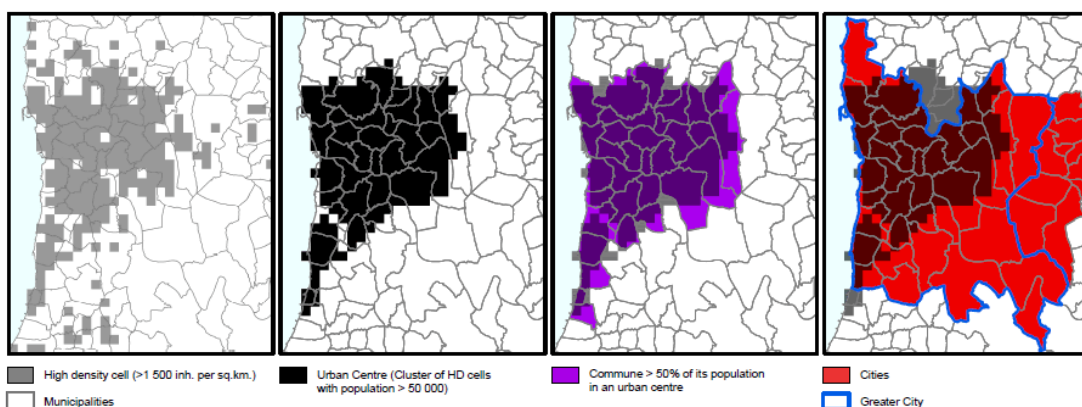
In some cases, the greater city contains a single city. Athens is a clear example of such an approach. The urban centre (in black) is much bigger than the city (in red on the map). A greater city level was added (blue outline), which captures a far greater share of the population of the urban centre.

Figure 3: High density cells, urban centre, City and Greater city (Athina)



Some Greater cities include multiple cities. In most cases, the Greater city equals the combination of two or more cities. The Greater city of Porto, for example, is made up of five cities (Porto, Vila Nova de Gaia, Gondomar, Valongo and Matosinhos). In a few cases, the greater city includes several cities and other communes, as for example in Rotterdam, Helsinki, Milan and Naples.

Figure 4: High density cells, urban centre, City and Greater city (Porto)



4.5 Definition of sub-city districts

The definition of the sub-city districts has not been harmonised, however certain guidelines were adopted.

- Sub-city districts shall be defined for all capital cities and for non-capital cities with more than 250 000 inhabitants at the city level.
- The definition of sub-city districts for non-capital cities with less than 250 000 inhabitants at the city level is optional.
- Sub-city districts should have a population between 5 000 and 40 000.
- Sub-city districts shall be internally homogenous in terms of social structure and built environment as far as possible.
- In several large cities a subdivision of cities already exists but the units are larger in terms of population than the above-mentioned thresholds. In these cases, an additional sub-city district level can be defined, which corresponds to the established city districts.
- Based on the above, sub-city districts can be defined at two levels. Sub city districts level 1 corresponds to the established city districts and level 2 follows the population criteria.
- For most cities only level 2 is defined, while for some other cities both levels 1 and 2 are defined.
- If deemed necessary, it is possible to define a sub-city district without territory (unknown sub-city district). This can be used for adjustments in calculating totals of all sub-city districts).
- The territory not covered by a City but covered by a Greater City can also be divided into sub-city districts. The same guidelines apply as above.

4.6 Coding used in the spatial dimension

The coding used reflects the spatial hierarchy.

- CC Country Code
- CCxxxLa Functional Urban Area (FUA)
- CCxxxKb Greater City
- CCxxxCc City
- CCxxxDzz Sub-city districts level 1
- CCxxxDzzyy Sub-city districts level 2
- xxx is a running number (since some cities were dropped or taken over from the former 'Large City Audit'⁽⁶⁾ list there are 'holes' in the numbering)
- The same running number (xxx) indicates that the City is included in the FUA (or in the Greater City). However a FUA can include multiple Cities so not all Cities within a FUA will have the same running number. The same applies to Greater Cities.
- Not all Cities have a FUA.
- a, b and c are version numbers reflecting the changes in the city boundaries.
- In 2012, the version number 1 was given to cities where no considerable changes were made compared to the previous definition and 2 was given where changes were made. Currently

⁽⁶⁾ The Large City Audit was executed between 2007 and 2011. It included all 'non Urban Audit' cities with more than 100 000 inhabitants. For these cities the running number of the code started with 5. For example, DE502C1 Mannheim.

some cities already have a version number 3

- If the FUA level is not defined for a city, the version number 0 is given to its FUA. This code is used as a 'placeholder' in the database. Version number 0 is used in the case of city that never had a commuting zone or that lost its commuting zone.
- Please note the version numbers of the FUA, Greater City and City are independent of each other. It is possible to change the boundaries of a City but the Greater city level and the FUA level remain unchanged.
- Not all Cities have a Greater City although they might have adjacent Cities.
- Not all LAUs composing the Greater Cities are recognised as Cities (for instance Paris and Basel). That is why they do not have City codes.
- At the Sub-city district level 1 and level 2, zz and yyy are running numbers.

If the territory not covered by a City but covered by a Greater City is divided into sub-city districts, then the following codes shall be used:

- CCxxx**X**bzz Sub-city districts level 1
- CCxxx**X**bzzyyy Sub-city districts level 2

See example:

- FR National level
- FR001L1 FUA plus version number
- FR001K1 Greater city plus version number
- FR001C1 City plus version number
- FR001D00 Sub-city district level 1
- FR001D00001 Sub-city district level 2

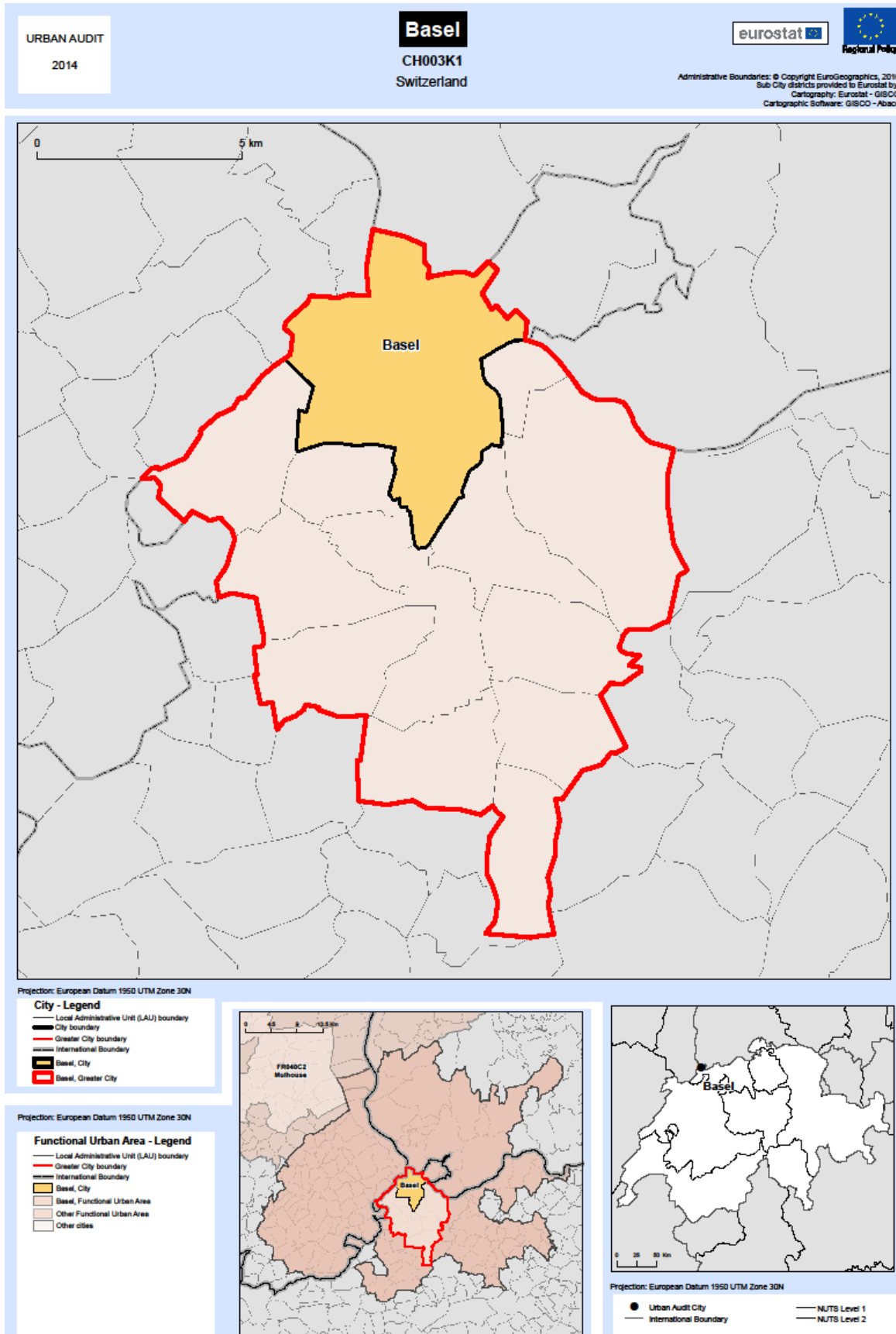
If the LAU boundaries change has led to a more than 1 % population change, then the City, Greater city or the FUA need a new version code. The update of the FUAs based on the 2011 commuting data has also led to changes in the boundaries.

The recoding follows the principle: if in the previous version the code of a city, FUA or Greater city was 1, it has to be recoded to 2, if the code was version 2 it becomes 3, etc. For example, after the last update for the FUA of Praha, code CZ001L1 changed to CZ001L2.

London now has a FUA – UK001L3, a Greater city – UK001K2 and the 33 ex-SCD are now 33 Cities. These 33 cities have been defined for reasons of comparability.

Please note that Eurostat is coding and recoding the spatial units whenever there is an agreement with the NSIs on a new city list or update of the FUAs. This results in an update of the GIS city layer maintained by Eurostat. The NSIs are expected to monitor the LAU boundaries changes annually and to inform Eurostat if any city statistics spatial units have been affected.

4.7 Examples



URBAN AUDIT
2014

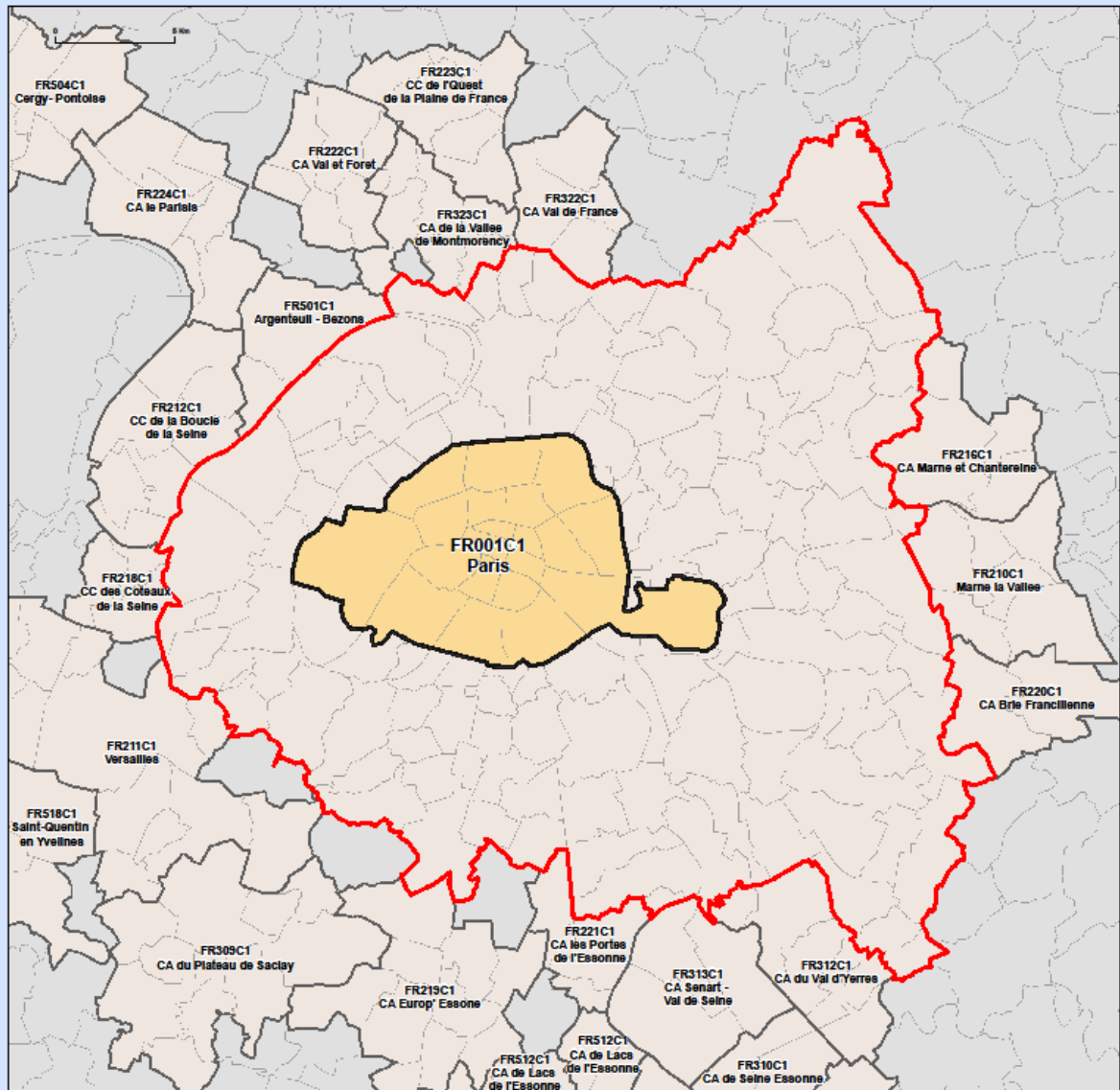
Paris

FR001K1
France

eurostat



Administrative Boundaries: © Copyright EuroGeographics, 2015
Sub City districts provided to Eurostat by
Cartography: Eurostat - GISCO
Cartographic Software: GISCO - Abaco



Projection: European Datum 1950 UTM Zone 30N

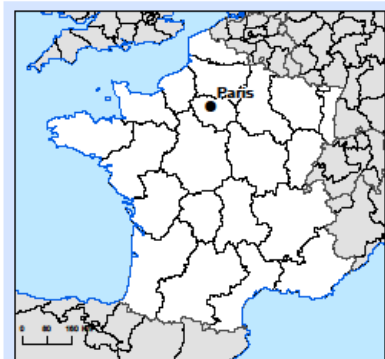
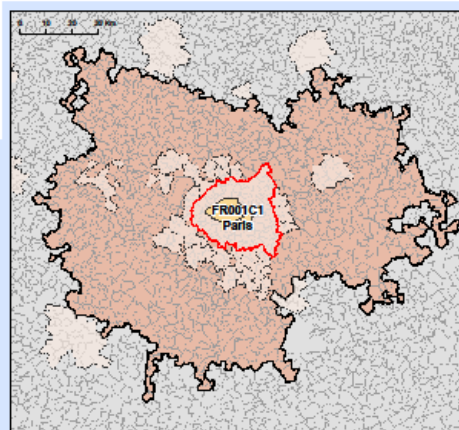
City - Legend

- Local Administrative Units (LAU) boundary
- Greater City boundary
- Paris, City
- Paris, Greater City
- Other cities

Projection: European Datum 1950 UTM Zone 30N

Functional Urban Area - Legend

- Local Administrative Units (LAU) boundary
- Greater City boundary
- Paris, City
- Paris, Functional Urban Area
- Other cities



Projection: European Datum 1950 UTM Zone 30N

- Urban Audit City
- International Boundary
- Coastline
- NUTS Level 1
- NUTS Level 2

5

Flags

The flags are part of the mandatory data package which data suppliers send to Eurostat.

The lists accepted for publication are:

- b = break in time series
- c = confidential
- d = definition differs, see metadata
- e = estimated
- f = forecast
- n = not significant
- p = provisional
- *r = revised*
- u = low reliability
- z = not applicable

Information should be given to the user about following aspects of the statistical base:

- How representative is the data?
- Is the data point identical to the source information or has it been 'manipulated' in order to comply with a required definition?

Estimation refers to the calculation of statistics or estimates using a mathematical formula applied to the available data. When using sample survey data for an estimation, **modelling** can be used to incorporate other (auxiliary) data in the estimation procedure to improve the accuracy of estimation⁽⁷⁾. Any adjustments of the available data, including combination of census and registered data have to be flagged as 'e'.

Please note: Rounded numbers might not satisfy the rules of some of the quality checks. (For example male and female population will not equal the total population in a specific age group. If possible please provide with the figure in the requested unit of measurement (absolute figure or percentage).

If a **different definition** of a variable is used due to the compliant data not being available and estimates not possible, then this is to be flagged with a 'd'. The flag for 'definition differs' will increase transparency in the database enormously if it is applied properly by all data suppliers. The relevant explanations should be available in the national reference metadata file.

⁽⁷⁾ This is often accomplished by using specific estimators such as the generalized regression estimator, which incorporates the auxiliary data into the estimation procedure by using a regression model. A typical example of a model is a linear regression model, but more complex models are often used for example in small-area estimation. Detailed information on the small-area estimation methods used must be provided together with the metadata files.

The 'c' and 'u' flags suppress the corresponding data from dissemination on Eurostat's website. In the interest of our clients / users, its usage should be minimised as much as possible. Data flagged as 'c' and 'u' will be suppressed from dissemination.

The national metadata files should provide information on the accuracy of the estimates including the confidence interval.

6 The Glossary (data domains)

6.1 Introductory remarks

By supplying the manifold data suppliers with clear and **harmonised definitions**, we try to assure the production of **comparable data** for the users. In order to meet this target, data suppliers should make the utmost effort to apply the foreseen definitions to the data.

The 'glossary' is in a way never final as it undergoes continuous improvements. In other words, the text will be further updated at regular intervals to consistently enhance its accuracy and to integrate new variables and indicators following policy needs. For this process, any comments are highly welcome. Please send your comments to estat-urban-audit@ec.europa.eu.

The glossary includes hyperlinks to documents stored in CIRCABC in the library of the Regional and Urban Statistics Interest Group. You will find all documents in the ['/CircaBC/ESTAT/regstat/Library/Urban Audit - variables, indicators, geospatial units'](#) folder. There are also hyperlinks to other official documents relevant for the data collection included (e.g. relevant legislation, methodologies, etc.).

6.2 Demography (DE)

6.2.1 Population (DE1)

Variables

Code	Label	Required?	Unit of measurement
DE1001V	Population on the 1st of January, total ⁽⁸⁾	yes	Absolute Number
DE1002V	Population on the 1st of January, male	yes	Absolute Number
DE1003V	Population on the 1st of January, female	yes	Absolute Number
DE1040V	Population on the 1st of January, 0-4 years, total	yes	Absolute Number
DE1041V	Population on the 1st of January, 0-4 years, male	yes	Absolute Number
DE1042V	Population on the 1st of January, 0-4 years, female	yes	Absolute Number
DE1074V	Population on the 1st of January, 5-9 years, total	yes	Absolute Number

⁽⁸⁾ The 'old label' was Total Resident Population. The labels were adapted throughout the DE1 domain.

Code	Label	Required?	Unit of measurement
DE1075V	Population on the 1st of January, 5-9 years, male	yes	Absolute Number
DE1076V	Population on the 1st of January, 5-9 years, female	yes	Absolute Number
DE1077V	Population on the 1st of January, 10-14 years, total	yes	Absolute Number
DE1078V	Population on the 1st of January, 10-14 years, male	yes	Absolute Number
DE1079V	Population on the 1st of January, 10-14 years, female	yes	Absolute Number
DE1046V	Population on the 1st of January, 15-19 years, total	yes	Absolute Number
DE1047V	Population on the 1st of January, 15-19 years, male	yes	Absolute Number
DE1048V	Population on the 1st of January, 15-19 years, female	yes	Absolute Number
DE1049V	Population on the 1st of January, 20-24 years, total	yes	Absolute Number
DE1050V	Population on the 1st of January, 20-24 years, male	yes	Absolute Number
DE1051V	Population on the 1st of January, 20-24 years, female	yes	Absolute Number
DE1058V	Population on the 1st of January, 25-34 years, total	yes	Absolute Number
DE1059V	Population on the 1st of January, 25-34 years, male	yes	Absolute Number
DE1060V	Population on the 1st of January, 25-34 years, female	yes	Absolute Number
DE1061V	Population on the 1st of January, 35-44 years, total	yes	Absolute Number
DE1062V	Population on the 1st of January, 35-44 years, male	yes	Absolute Number
DE1063V	Population on the 1st of January, 35-44 years, female	yes	Absolute Number
DE1064V	Population on the 1st of January, 45-54 years, total	yes	Absolute Number
DE1065V	Population on the 1st of January, 45-54 years, male	yes	Absolute Number
DE1066V	Population on the 1st of January, 45-54 years, female	yes	Absolute Number
DE1025V	Population on the 1st of January, 55-64 years, total	yes	Absolute Number
DE1026V	Population on the 1st of January, 55-64 years, male	yes	Absolute Number
DE1027V	Population on the 1st of January, 55-64 years, female	yes	Absolute Number
DE1028V	Population on the 1st of January, 65-74 years, total	yes	Absolute Number
DE1029V	Population on the 1st of January, 65-74 years, male	yes	Absolute Number
DE1030V	Population on the 1st of January, 65-74 years, female	yes	Absolute Number
DE1055V	Population on the 1st of January, 75 years and over, total	yes	Absolute Number
DE1056V	Population on the 1st of January, 75 years and over, male	yes	Absolute Number

Code	Label	Required?	Unit of measurement
DE1057V	Population on the 1st of January, 75 years and over, female	yes	Absolute Number
DE1073V	Median population age	Nice to have	Absolute Number

Population (DE1001V to DE1079V): Population at its usual residence at the reference date. 'Usual residence' means the place where a person normally spends the daily period of rest, regardless of temporary absences for purposes of recreation, holidays, visits to friends and relatives, business, medical treatment or religious pilgrimage or, in default, the place of legal or registered residence. The following persons alone are considered to be usual residents of the geographical area in question:

- (i) those who have lived in their place of usual residence for a continuous period of at least 12 months before the reference date; or
- (ii) those who arrived in their place of usual residence during the 12 months before the reference date with the intention of staying there for at least one year.

Sources:

- [Regulation \(EU\) No 1260/2013](#) of the European Parliament and of the Council of 20 November 2013 on European demographic statistics
- [Commission Implementing Regulation \(EU\) No 205/2014](#) of 4 March 2014 laying down uniformed conditions for the implementation of Regulation (EU) No 1260/2013 of the European Parliament and the Council on European demographic statistics, as regards breakdowns of data, deadlines and data revisions

It is stressed that this population number is the **reference** for measuring the **general size of the urban entity** within the specified boundaries of the City, the Functional Urban Area (FUA) and the Sub-City District (SCD). It is the denominator for most derived indicators.

Age: Expressed as the number of birthday anniversaries passed on the date of reference. As it is the same as the number of completed years lived by a person, it is also referred to as 'age in completed years'. For many variables, there are age thresholds (population groupings; single parent households; households with children; pensioner households). The current practice or the legal frameworks differ in many countries. If these national differences were applied, then the resulting statistics would not be comparable. It is for this reason that the Census age bands are requested here, even if it might contradict national practices.

Reference date for population data: In European demographic statistics (national and regional level) data referring to population on 31st December of the reference year are transmitted by the Member States to Eurostat under the [Regulation \(EU\) No 1260/2013](#) of the European Parliament and of the Council of 20 November 2013. The data are conventionally published by Eurostat as 1 January of the following year (reference year + 1).

The European City Statistics follow the same principle. Eurostat aims to collect data on population on 1st January of the year in question (or in some cases, on 31st December of the previous year). For census years, the reference date of the census could be used. This should be indicated in a footnote giving the exact date.

Median age (DE1073V) is the age that divides a population into two groups that are numerically equivalent.

6.2.2 Nationality (DE2)

Variables:

Code	Label	Required?	Unit of measurement
DE2001V	Nationals	Yes	Absolute Number
DE2012V	Foreigners	Yes	Absolute Number
DE2002V	EU foreigners	Yes	Absolute Number
DE2003V	Non-EU foreigners	Yes	Absolute Number
DE2008V	Native-born	Yes	Absolute Number
DE2009V	Foreign-born	Yes	Absolute Number
DE2010V	Foreign-born in an EU country	Yes	Absolute Number
DE2011V	Foreign-born in a non-EU country	Yes	Absolute Number

The term 'nationals' is used referring to the concept of citizenship.

Foreigner is a person who does not have the citizenship of the country of current usual residence, regardless of the place of birth.

EU foreigner is a person living in the reporting country who has the nationality of another EU country than the reporting country.

Non-EU foreigner is a person living in the reporting country with a third country nationality, i.e. someone who has not the nationality of any of the Member States of the European Union. Stateless persons or persons with undetermined nationality should be included in the figure for Non-EU foreigners. Double citizenship should be treated according to the national legislation.

For the distinction between those born in the country and abroad, the terms 'native-born' and 'foreign-born' are used:

- 'native-born' means a person who was born in the country of current usual residence regardless of the person's citizenship;
- 'foreign-born' means a person who was born outside of the country of current usual residence regardless of the person's citizenship.

For countries without this information (for example the UK), available ethnicity data should be used as a proxy, with a comment regarding the definition.

'Recognised non-citizens' are persons who are not citizens of the reporting country nor of any other country, but who have established links to that country including some but not all rights and obligations of full citizenship. This category is particularly relevant in the Baltic States. In the case of Latvia, the government issues a particular category of non-citizen (non-EU) passport to these people. These should be counted as 'Non-EU'.

EU countries: The concept of EU 28 should be used from the 1st January 2014 reference date onwards, for as long as the 'brexit' is not completed. Should the United Kingdom withdraw from the European Union, then the concept of EU-27⁽⁹⁾ will then again be applicable.

Non-EU countries should not include their own citizens in the figures for DE2003V.

⁽⁹⁾ It is possible that a different term than EU-27 will be used at this time to differentiate from the previous existence of EU-27. In this case, please use the correct, latest terminology.

For further details on nationality and citizenship, see [Commission Implementing Regulation \(EU\) No 205/2014](#) of 4 March 2014 laying down uniformed conditions for the implementation of [Regulation \(EU\) No 1260/2013](#) of the European Parliament and of the Council of 20 November 2013 on European demographic statistics.

6.2.3 Household Structure (DE3)

Variables:

Code	Label	Required?	Unit of measurement
DE3001V	Private households (excluding institutional households)	Yes	Absolute number
DE3017V	Population living in private households (excluding institutional households)	Yes	Absolute number
DE3002V	One person households	Yes	Absolute number
DE3005V	Lone parent private households (with children aged 0 to under 18)	Yes	Absolute number
DE3008V	Lone pensioner households	Yes	Absolute number
DE3011V	Households with children aged 0 to under 18	Yes	Absolute number

Private household (DE3001V)

Countries use different concepts of the private household. In City Statistics, in order to enable the extensive use of registers, we choose to use the [household-dwelling concept](#).

The recent recommendation for the 2020 census states that the '[housekeeping unit](#)' concept should be used. However, this concept requires non-register based census data which is seldom available and therefore the household-dwelling concept was selected. Whether a country uses the 'housekeeping unit' or the 'household-dwelling' concept of a household, generally has little implication for the total number of private households. However, differences can be large for certain household types, for example for one-person households. In view of international comparability, it is therefore recommended that countries that use the 'housekeeping unit' concept, if possible, make an estimate of the number of private households according to the 'household-dwelling' concept, and break this number down by household size. Information on which concept has been used should be provided in the metadata file. Usually the household-dwelling concept is used in case of register-based data while surveys are the source for housekeeping unit data.

According to the 'housekeeping concept', a private household is either:

- (a) A one-person household that is a person who lives alone in a separate housing unit or who occupies, as a lodger, a separate room (or rooms) of a housing unit but does not join with any of the other occupants of the housing unit to form part of a multi-person household as defined below; or
- (b) A multi-person household that is a group of two or more persons who combine to occupy the whole or part of a housing unit and to provide themselves with food and possibly other essentials for living. Members of the group may pool their incomes to a greater or lesser extent.

This concept does not assume that the number of private households is necessarily equal to the number of housing units.

The household-dwelling concept considers all persons living in a housing unit to be members of the same household, such that there is one household per occupied housing unit. In the household-dwelling concept, then the number of occupied housing units and the number of households

occupying them are equal, and the locations of the housing units and households are identical.

Households should only be generated if the respective housing unit is the usual (or legal main) residence of at least one occupant. Only persons with their main residence in a housing unit should be included in the generation of the household as defined by this housing unit.

For more information see the [Conference of European Statisticians Recommendations for the 2020 Censuses of Population and Housing, New York and Geneva, 2015](#).

Lone parent private household (with children aged 0 to under 18) (DE3005V): A one family household with only one adult and at least one child under 18 years old. It should be noted that the adult is not necessarily a biological parent but an adult of the family nucleus.

Lone pensioner household (DE3008V): Single person household where that person has retired from work and – in the normal case – reached the national retirement age. As the national retirement age varies in different countries, the emphasis is put on the fact that these persons will not work anymore. Persons to be counted have worked earlier, so persons that never worked, for example due to a handicap and persons receiving unemployment benefits are not included. Persons that supplement their pension with earnings from other sources (short-term tasks or others) should be included.

Households with children aged 0 to under 18 (DE3011V): A private household (one family household or two or more families households) with one or more adults (over 18 years old) and at least one child (under 18 years old).

Please note: in non-Census years the preferred data source for the variables related to the household structure is the Labour Force Survey (LFS) as the survey with the largest sample as well as administrative sources.

6.3 Social Aspects (SA)

6.3.1 Housing (SA1)

Variables:

Code	Label	Required?	Unit of measurement
SA1001V	Number of conventional dwellings	Yes	Absolute Number
SA1050V	Average price for buying a house per m ²	Yes	€ per m ²
SA1051V	Average price for buying an apartment per m ²	Yes	€ per m ²
SA1004V	Number of houses	Nice to have	Absolute Number
SA1005V	Number of apartments	Nice to have	Absolute Number
SA1018V	Dwellings lacking basic amenities	Nice to have	Absolute Number
SA1025V	Empty conventional dwellings	Nice to have	Absolute Number
SA1007V	Number of households living in houses	Nice to have	Absolute Number
SA1008V	Number of households living in apartments	Nice to have	Absolute Number
SA1029V	Number of people in accommodation for the homeless	Nice to have	Absolute Number
SA1049V	Average annual rent for housing per m ²	Nice to have	€ per m ²
SA1011V	Households owning their own dwelling	Nice to have	Absolute Number

Code	Label	Required?	Unit of measurement
SA1012V	Households in social housing	Nice to have	Absolute Number
SA1013V	Households in private rented housing	Nice to have	Absolute Number
SA1022V	Useful floor space	Nice to have	m ² Per person

The **household** concept used in this chapter is consistent with the private household definition given in chapter Household Structure (DE3).

Houses and apartments (SA1004V and SA1005V) are defined in the [Conference of European Statisticians Recommendations for the 2020 Censuses of Population and Housing, New York and Geneva, 2015](#).

A **building** is defined in this context as any independent structure containing one or more dwellings, rooms or other spaces, covered by a roof and enclosed within external walls or dividing walls which extend from the foundations to the roof, whether designed for residential or for agricultural, commercial, industrial or cultural purposes or for the provision of services. Thus, a building may be a detached dwelling, **apartment** building, factory, shop, warehouse, garage, barn, etc.

Residential buildings are:

Houses:

- (1.1) Detached house (houses not attached to any other buildings)
 - (1.1.1) Detached houses with one dwelling
 - (1.1.2) Detached houses with two dwellings (with one above the other)
- (1.2) Semi-detached house (two attached dwellings)
- (1.3) Row (or terraced) house (at least three attached or connected dwellings each with separate access to the outside)

Apartment buildings

- (1.1) Apartment buildings with three to nine dwellings
- (1.2) Apartment buildings with 10 or more dwellings

Apartment is a dwelling in an apartment building.

Please note: If a house has more than one dwelling, they must not be counted as apartments.

A **conventional dwelling** (SA1001V) is structurally separate and independent premises, and which is designed for permanent human habitation at a fixed location and is not used wholly for non-residential purposes. It is defined as a room or suite of rooms and its accessories (for example lobbies, corridors) in a permanent building or structurally separated part thereof, which, by the way it has been built, rebuilt or converted, is designed for habitation by a single household all the year round, such as a house or apartment. It need not necessarily have a bathroom or toilet available for the exclusive use of its occupants. For this purpose, 'permanent building' is a building that was constructed to be structurally stable for at least ten years. Some countries may prefer to define permanence in terms of the method of construction or in terms of the building materials used. Detached rooms for habitation, which are clearly designed to be used as part of the dwelling, for example a room or rooms above a detached garage should be included.

Conventional dwellings can be classified as occupied, secondary, seasonal and other vacant dwellings. A conventional dwelling is defined as an occupied conventional dwelling if it is a usual residence of one or more persons. An occupant of a conventional dwelling is a person who has their usual residence in the dwelling.

All conventional dwellings are counted for census purposes whether or not they are occupied (i.e. have at least one usual resident) – although most variables apply only to occupied conventional dwellings. Because of their importance, conventional dwellings are further classified by occupancy and type of building. However, countries can also subdivide occupied conventional dwellings using the core housing infrastructure (presence of a kitchen, water supply, toilet, bathing and heating facilities) to classify how basic the housing is. Collective living quarters (hotels, institutions and camps) are excluded from conventional dwellings.

Number of people in accommodation for the homeless (SA1029V)⁽¹⁰⁾ refers to people in night shelters where they make an overnight stay with no usual place of residence and people in homeless hostels where the period of stay is intended to be short term. Data should be collected on the stock of people either staying over for one night or for over a longer period. The figures provided should be the average for the reference year. If data for a certain point in time is provided, this should be indicated in a footnote. Children should be included in the figure. If data are only provided for adults this should also be indicated in a footnote.

Empty conventional dwellings (SA1025V) are considered as empty if they fall into one of these categories:

- (1.1) Dwellings reserved for seasonal or secondary use
- (1.2.) Vacant dwellings
 - (1.2.1) Vacant for sale
 - (1.2.2) Vacant for rent
 - (1.2.3) Vacant for demolition
 - (1.2.4) Other vacant or not known
- (1.3) Dwellings occupied by persons not included in the census/survey (such as foreign military, naval and diplomatic personnel and their families)

House prices (SA1050V): Average buying price during the reference year per sq. m. of house sold, for houses available for purchase in Euro. This includes both newly built and old (existing) houses, as well as terraced houses and semi-detached houses. The price of the new houses (the same applies to apartments) should be provided including the VAT, and for the existing dwellings, the transfer tax should not be considered. Real estate agency fees are excluded in all cases. Most houses do have a land parcel attached, and the separation of price is usually not recorded. Therefore, the land should be considered in the average price for buying a house.

Apartment prices (SA1051V): Average buying price per sq. m. of apartment sold during the reference year, for apartments available for purchase in Euro. This includes both newly built and old (existing) apartments. In the cases when newly built apartments are sold with a land parcel, it should be considered in the average price for buying an apartment. VAT should be included.

Please note: The average price for buying a house/apartment is now requested for sq. m. but not for the whole property as it was in the past.

Prices for apartments and houses will differ significantly inside a city depending on being new/existing, location, size and many other features. There are two possibilities: to provide the average for the transacted dwellings (houses/apartments) during the reference year, or the average for the stock of dwellings. By far the easiest is the first option, and you can see an example on Statistics Belgium site:

http://statbel.fgov.be/fr/statistiques/chiffres/economie/construction_industrie/immo/prix_moyen_appartements/

⁽¹⁰⁾ FEANTSA (the European Federation of organisations working with the homeless) has developed a typology of homelessness and housing exclusion (ETHOS). This is one of the categories.

Average annual rent for housing per m² (SA1049V)

'Actual rentals for housing' (04.1) [the code refers to the Classification of Individual Consumption] are all rentals actually paid by tenants, i.e. the rentals the tenant pays to the landlord regardless of any social benefits the tenant receives from public authorities (including payments which at the tenant's discretion go directly to the landlord). Rentals normally include payment for the use of the land on which the property stands, the dwelling occupied, the fixtures and fittings for heating, plumbing, lighting, etc., and, in the case of a dwelling let furnished, the furniture. Rentals also include payment for the use of a garage to provide parking in connection with the dwelling. The garage does not have to be physically contiguous to the dwelling; nor does it have to be leased from the same landlord.

Rentals do not include payment for the use of garages or parking spaces not providing parking in connection with the dwelling (07.2.4). Nor do they include charges for water supply (04.4.1), refuse collection (04.4.2) and sewerage collection (04.4.3); co-proprietor charges for caretaking, gardening, stairwell cleaning, heating and lighting, maintenance of lifts and refuse disposal chutes, etc. in multi-occupied buildings (04.4.4); charges for electricity (04.5.1) and gas (04.5.2); charges for heating and hot water supplied by district heating plants (04.5.5).' ([Classification of Individual Consumption by Purpose Adapted to the Needs of Harmonized Indices of Consumer Prices](#))

The variable should be calculated for a year.

Basic amenities: [Examples](#) for basic amenities are piped (running) water, flush toilet, bath/shower, central sewerage connection or individual cesspool and hot water installation.

Dwellings lacking basic amenities (SA1018V): occupied conventional dwellings where **one** or more of the amenities are lacking. The applied criteria should be indicated in the metadata.

Useful floor space m² per person (previous label Average area of living accommodation)

(SA1022V): (occupied dwellings only) is defined as 'the floor space measured inside the outer walls, excluding non-habitable cellars and attics and, in multi-dwelling buildings, all common spaces'. Alternatively, countries may prefer to adopt another concept of living floor space, defined as 'the total floor space of rooms within the dwelling'. The concept of a 'room' is defined as 'a space in a housing unit enclosed by walls reaching from the floor to the ceiling or roof covering, at least to a height of 2 metres above the ground, of a size large enough to hold a bed for an adult (4 square metres at least) and at least 2 metres high over the major area of the ceiling'. Thus, normal bedrooms, dining rooms, living rooms, habitable cellars and attics, servants' rooms, kitchens and other separate spaces used or intended for habitation all count as rooms if they correspond to the definition above. A kitchenette (that is, a kitchen of less than 4 square metres), verandas, utility rooms (for example boiler rooms, laundry rooms) and lobbies do not count as rooms; nor do bathrooms and toilets (even if they are more than 4 square metres). Rooms without windows, for example cellars below ground – however large – should not generally be counted, unless they are functionally used for domestic purposes – which might include large lobbies with writing tables or internal bedrooms with no windows for example. If this concept is used it should clearly be defined in the metadata to avoid confusion in international comparisons.

([2020 World Population and Housing Census programme](#)).

6.3.2 Health (SA2)**Variables:**

Code	Label	Required?	Unit of measurement
SA2004V	Infant mortality	Yes	Absolute Number
SA2007V	Number of live births	Yes	Absolute Number
SA2019V	Total deaths per year	Yes	Absolute Number

Code	Label	Required?	Unit of measurement
SA2020V	Total deaths per year, male	Yes	Absolute Number
SA2021V	Total deaths per year, female	Yes	Absolute Number
SA2013V	Number of deaths per year under 65 due to diseases of the circulatory or respiratory systems	Nice to have	Absolute Number
SA2016V	Total deaths	Nice to have	Absolute Number
SA2017V	Total deaths under 65 per year, male	Nice to have	Absolute Number
SA2018V	Total deaths under 65 per year, female	Nice to have	Absolute Number

Death (SA2016V–SA2021V) is the permanent disappearance of all evidence of life at any time after live birth has taken place (postnatal cessation of vital functions without capability of resuscitation) (Regulation (EU) No 1260/2013 of the European Parliament and of the Council of 20 November 2013 on European demographic statistics. For more information, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:330:0039:0043:EN:PDF>).

Infant mortality per year (SA2004V): total number of deaths of children born alive aged less than 1 year, for the reference year. Source: [Eurostat CODED](#)

Causes of Death (COD) statistics are based on information derived from the medical death certificate. COD target at the underlying cause of death, i.e. 'the disease or injury which initiated the train of morbid events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury'. This definition has been adopted by the [World Health Assembly](#).

Number of live births per year (SA2007V) are defined according to the World Health Organization (WHO), [International Statistical Classification of Diseases and Related Health Problems 10th Revision \(ICD-10\)](#)⁽¹¹⁾. These are births of children that showed any sign of life. They are a complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered to be live born. Live births comprise the number of births excluding stillbirths.

Number of deaths per year under 65 due to diseases of the circulatory or respiratory systems (SA2013V), the ICD 10 has to be applied as well:

CHAPTER IX: DISEASES OF THE CIRCULATORY SYSTEM (I00-I99)

- I00-I02 Acute rheumatic fever
- I05-I09 Chronic rheumatic heart diseases
- I10-I15 Hypertensive diseases
- I20-I25 Ischaemic heart diseases
- I26-I28 Pulmonary heart disease and diseases of pulmonary circulation
- I30-I52 Other forms of heart disease
- I60-I69 Cerebrovascular diseases
- I70-I79 Diseases of arteries, arterioles and capillaries
- I80-I89 Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified
- I95-I99 Other and unspecified disorders of the circulatory system

⁽¹¹⁾ The release date for ICD-11 is 2018.

CHAPTER X: DISEASES OF THE RESPIRATORY SYSTEM (J00-J99)

- J00-J06 Acute upper respiratory infections
- J10-J18 Influenza and pneumonia
- J20-J22 Other acute lower respiratory infections
- J30-J39 Other diseases of upper respiratory tract
- J40-J47 Chronic lower respiratory diseases
- J60-J70 Lung diseases due to external agents
- J80-J84 Other respiratory diseases principally affecting the interstitium
- J85-J86 Suppurative and necrotic conditions of lower respiratory tract
- J90-J94 Other diseases of pleura
- J95-J99 Other diseases of the respiratory system

For these variables, data should include the figures for chapters IX and X of ICD-10 altogether.

6.3.3 Crime (SA3)

Variables:

Code	Label	Required?	Unit of measurement
SA3005V	Number of murders and violent deaths	Nice to have	Absolute number

Number of murders and violent deaths (SA3005V) The definition given in the Guidelines of the Joint Eurostat–UNODC data collection on Crime and Criminal Justice Statistics is the following: Number of murders and violent deaths, also called 'Intentional homicide', means unlawful death purposefully inflicted on a person by another person. Data on intentional homicides should also include serious assault leading to death and death as a result of a terrorist attack. It should exclude attempted homicide, manslaughter, death due to legal intervention, justifiable homicide in self-defence and death due to armed conflict. Causing death by dangerous driving is excluded, as is abortion and help with suicide. The data source for this variable is preferably the police records. If other data source, for example statistics on deaths by death cause (ICD-10) is used, it should be mentioned in the metadata file.

6.4 Economic Aspects (EC)

6.4.1 Labour Market (EC1)

Variables:

Code	Label	Required?	Unit of measurement
EC1001V	Economically active population	Yes	Absolute Number
EC1002V	Economically active population, male	Yes	Absolute Number
EC1003V	Economically active population, female	Yes	Absolute Number

Code	Label	Required?	Unit of measurement
EC1145V	Economically active population 55-64, total	Yes	Absolute Number
EC1146V	Economically active population 55-64, male)	Yes	Absolute Number
EC1147V	Economically active population 55-64, female	Yes	Absolute Number
EC1174V	Economically active population, 20-64, total	Yes	Absolute Number
EC1175V	Economically active population, 20-64, male	Yes	Absolute Number
EC1176V	Economically active population, 20-64, female	Yes	Absolute Number
EC1010V	Persons unemployed, total	Yes	Absolute Number
EC1011V	Persons unemployed, male	Yes	Absolute Number
EC1012V	Persons unemployed, female	Yes	Absolute Number
EC1177V	Persons employed, 20-64, total	Yes	Absolute Number
EC1178V	Persons employed, 20-64, male	Yes	Absolute Number
EC1179V	Persons employed, 20-64, female	Yes	Absolute Number
EC1180V	Persons employed, 55-64, total	Yes	Absolute Number
EC1181V	Persons employed, 55-64, male	Yes	Absolute Number
EC1182V	Persons employed, 55-64, female	Yes	Absolute Number

All variables under the heading of Labour Market are **residence based**, not workplace based. The data provided shall take into account the people living in the city, irrespective of their work place. Labour market concepts and definitions are in accordance with the ILO standards and the Community Labour Force Survey. Since the Labour Force Survey is, in general, designed for NUTS level 2, some estimation might be necessary.

Employment (persons employed) (EC1077V to EC1082V): Persons of the relevant age classes who during the reference week performed work for pay or profit for at least one hour, or were not working but had jobs from which they were temporarily absent for example due to illness, holidays, industrial dispute and education and training.

Unemployment (persons unemployed) (EC1010V to EC1012V): Persons aged 15 to 74 who were:

- (1) not employed according to the definition of employment;
- (2) **currently available for work, i.e. were available for paid employment or self-employment before the end of the two weeks following the reference week;**
- (3) actively seeking work, i.e. had taken specific steps in the four-week period ending with the reference week to seek paid employment or self-employment or who found a job to start later, i.e. within a period of at most three months from the end of the reference week⁽¹²⁾.

Economically active population (EC1001V, EC1002V, EC1003V, EC1145V, EC1146V, EC1147V, EC1174V to EC1182V): Persons that are either employed or unemployed and not part of the **economically inactive population**, which covers all residents over 15 who are not economically active (i.e. students, long term sick, permanently disabled, retired people, national armed services and those not seeking to enter the labour market).

Regarding the national level data on employment, unemployment and active population that is

⁽¹²⁾ <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32000R1897>, http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_labour_force_survey_-_methodology.

presented in conjunction with the urban level data, the average from the data available on a quarterly basis should be taken.

6.4.2 Economic Activity (EC2)

Variables:

Code	Label	Required?	Unit of measurement
EC2020V	Total employment (workplace based)	Nice to have	Absolute number
EC2008V	Employment in agriculture, fishery (NACE Rev. 2: A)	Nice to have	Absolute number
EC2009V	Employment in mining, manufacturing, energy (NACE Rev. 2: B to E)	Nice to have	Absolute number
EC2022V	Employment in construction (NACE Rev. 2: F)	Nice to have	Absolute number
EC2032V	Employment in trade, transport, hotels, restaurants (NACE Rev. 2: G to I)	Nice to have	Absolute number
EC2033V	Employment in information and communication (NACE Rev. 2: J)	Nice to have	Absolute number
EC2034V	Employment in financial and insurance activities (NACE Rev. 2: K)	Nice to have	Absolute number
EC2035V	Employment in real estate activities (NACE Rev. 2: L)	Nice to have	Absolute number
EC2036V	Employment in professional, scientific and technical activities; administrative and support service activities (NACE Rev. 2: M and N)	Nice to have	Absolute number
EC2037V	Employment in public administration, defence, education, human health and social work activities (NACE Rev. 2: O to Q)	Nice to have	Absolute number
EC2038V	Employment in arts, entertainment and recreation; other service activities; activities of household and extra-territorial organizations and bodies (NACE Rev. 2: R to T)	Nice to have	Absolute number
EC2021V	All companies (all economic activities)	Nice to have	Absolute number
EC2039V	Number of local units (all economic activities) – New variable	Nice to have	Absolute number

Due to the implementation of the [NACE Rev. 2](#) activities, an adjustment of the activity categories was necessary. The breakdown in **10 large industries** (activities) is done according to regional accounts statistics. This requested the deletion of some existing categories and integration of several new categories (according to NACE Rev.2). For all new NACE Rev. 2 categories the corresponding indicators will be calculated. NACE Rev. 2 section 'U - Activities of extraterritorial organizations and bodies' should be excluded.

The main categories are listed in the following Table:

NACE Rev. 2, Main Categories

NACE Rev. 2	
A	Agriculture, forestry and fishing
B	Mining and quarrying
C	Manufacturing
D	Electricity, gas, steam and air conditioning supply
E	Water supply; sewerage, waste management and remediation activities
F	Construction
G	Wholesale and retail trade; repair of motor vehicles and motorcycles
H	Transportation and storage
I	Accommodation and food service activities
J	Information and communication
K	Financial and insurance activities
L	Real estate activities
M	Professional, scientific and technical activities
N	Administrative and support service activities
O	Public administration and defence; compulsory social security
P	Education
Q	Human health and social work activities
R	Arts, entertainment and recreation
S	Other service activities
T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
U	Activities of extra-territorial organisations and bodies

Companies = Enterprises

'The enterprise is the smallest combination of legal units that is an organisational unit producing goods or services, which benefits from a certain degree of autonomy in decision-making, especially for the allocation of its current resources. An enterprise carries out one or more activities at one or more locations. An enterprise may be a sole legal unit.' (Source: [Commission Regulation \(EC\) No 250/2009](#) of 11 March 2009 implementing Regulation (EC) No 295/2008 of the European Parliament and of the Council as regards the definitions of characteristics, the technical format for the transmission of data, the double reporting requirements for NACE Rev.1.1 and NACE Rev.2 and derogations to be granted for structural business statistics)

The **local unit** is an enterprise or part thereof (e.g. a workshop, factory, warehouse, office, mine or depot) situated in a geographically identified place. At or from this place economic activity is carried out for which - save for certain exceptions - one or more persons work (even if only part-time) for one and the same enterprise.

For detailed information on statistical units, please see [Council Regulation \(EEC\) No 696/93](#) of 15 March 1993 on the statistical units for the observation and analysis of the production system in the Community (Official Journal of the European Communities No L 076, 30/03/1993, p. 1), Section III of 15.03.1993 on the statistical units for the observation and analysis of the production

system in the Community.

[Commission Regulation \(EC\) No 250/2009](#) of 11 March 2009 implementing Regulation (EC) No 295/2008 of the European Parliament and of the Council as regards the definitions of characteristics, the technical format for the transmission of data, the double reporting requirements for NACE Rev.1.1 and NACE Rev.2 and derogations to be granted for structural business statistics

Employment (number of persons employed in the local units at the territory of the reported city) is defined as the total number of persons who work in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service.

It includes second, third, etc. jobs of the same person. Those second, third, etc. jobs of a person may either successively follow one another within the reference period (usually, a week) or, as when someone has an evening job as well as a daytime job, run in parallel. On the other hand, it excludes persons temporarily not at work but who have a 'formal attachment to their job' in the form, for instance, of 'an assurance of return to work or an agreement as to the date of return'. Such an understanding between an employer and a person on lay-off or away on training is not counted as a job in the system.'

European system of accounts - ESA 2010 - Transmission programme of data (multilingual)

For more information see: <http://ec.europa.eu/eurostat/documents/3859598/5936561/KS-01-13-429-3A-C-EN.PDF>

Please note: The preferred data source for all variables under the heading of Economic activity is the Business register. The information in the Business register is used for a sample of the total target population of enterprises for different sample surveys in the business statistics such as the Business demography. If a country uses the LFS as data source for these data, the information should be aggregated using the workplace addresses of the respondents not the place of residence.

6.4.3 Income Disparities and Poverty (EC3)

Variables:

Code	Label	Required?	Unit of measurement
EC3064V	Share of persons living in households with very low work	Yes	Percentage of total population
EC3065V	Share of persons at risk of poverty after social transfers	Yes	Percentage of total population
EC3066V	Share of severely materially deprived persons	Yes	Percentage of total population
EC3067V	Share of persons at risk of poverty or social exclusion	Yes	Percentage of total population
EC3039V	Median disposable annual household income	Nice to have	Euro
EC3040V	Average disposable annual household income	Nice to have	Euro

The household definition used for the domain on 'Income disparities and poverty' (EC3) is slightly different from the household definition used for the DE3 and SA1 domains. This is due to the different data sources. The source for DE3 and SA1 variables should be the census, micro census

(or estimated data based on registers and census). Definitions in the EC3 domain should be compliant with:

- [Regulation \(EC\) No 1177/2003](#) of the European Parliament and of the Council of 16 June 2003 concerning Community statistics on income and living conditions (EU-SILC).
- [Regulation \(EC\) No 1553/2005](#) of the European Parliament and of the Council of 7 September 2005 amending Regulation (EC) No 1177/2003 concerning Community statistics on income and living conditions (EU-SILC).
- [Commission Regulation \(EC\) No 1980/2003](#) of 21 October 2003 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards definitions and updated definitions
- [Commission Regulation \(EC\) No 1981/2003](#) of 21 October 2003 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the fieldwork aspects and the imputation procedures.
- [Commission Regulation \(EC\) No 1982/2003](#) of 21 October 2003 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the sampling and tracing rules.
- [Commission Regulation \(EC\) No 28/2004](#) of 5 January 2004 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the detailed content of intermediate and final quality reports.
- [Commission Regulation \(EC\) No 215/2007](#) of 28 February 2007 on implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the list of target secondary variables relating to over-indebtedness and financial exclusion.
- [Commission Regulation \(EU\) No 1157/2010](#) of 9 December 2010 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC), as regards the 2012 list of target secondary variables on housing conditions
- [Commission Regulation \(EU\) No 112/2013](#) of 7 February 2013 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the 2014 list of target secondary variables on material deprivation
- [Commission Regulation \(EU\) No 67/2014](#) of 27 January 2014 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the 2015 list of target secondary variables on social and cultural participation and material deprivation
- [Commission Regulation \(EU\) 2015/2256](#) of 4 December 2015 amending Regulation (EC) No 1983/2003 implementing Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning Community statistics on income and living conditions (EU-SILC) as regards the list of target primary variables

For EC3039V and EC3040V income values should be reported.

Household Income (EC3039V and EC3040V): Annual income (in Euro) from all sources for the reference year. Current prices relating to each reference year are collected.

Total disposable household income (according to SILC) is calculated by adding together the personal income received by all of the household members plus income received at household level diminished by regular taxes on wealth, regular inter-household cash transfer paid and tax on income and social insurance contributions. To take into account the impact of differences in household size and composition, the total disposable household income must be 'equivalised'. The equivalised

income attributed to each member of the household is calculated by dividing the total disposable income of the household by the equivalisation factor. Equivalisation factors can be determined in various ways. Eurostat applies an equivalisation factor calculated according to the OECD-modified scale first proposed in 1994 - which gives a weight of 1.0 to the first person aged 14 or more, a weight of 0.5 to other persons aged 14 or more and a weight of 0.3 to persons aged 0-13.

Disposable household income (net of any taxes and social contributions paid) includes⁽¹³⁾:

- all income from work (employee wages and self-employment earnings)
- private income from investment and property
- transfers between households
- all social transfers received in cash including old-age pensions
- income from private pension plans.

Disposable household income does not include:

- in kind social transfers
- imputed rent
- income in kind, with exception of company car
- own consumption.

The detailed definition of each income component can be found in [Commission Regulation N° 1980/2003](#) and in EU-SILC guidelines.

Median: The middle value, i.e. 50 % of all observations is below the median value and 50 % above it. In general, individual data are rarely available so income classes are used. Knowing the number of households in each class, the class of the median income is known. The 'exact' amount of median income can be approximated by replacing the steps (caused by the classes) in the cumulative frequency curve by a smooth curve of distribution, at least for the class in which the median is situated.

Average (or mean): Compounds all the values of the set, e.g. in the case of the arithmetic or geometric means. In this context 'the average' should be calculated as an arithmetic mean.

For the four new variables in this domain the same definitions as used in Eurostat's dataset for 'Europe 2020 indicators, section Poverty and Social Exclusion' should be applied (see definitions below). The **first three variables** (EC3064V, EC3065V and EC3066V) **should be reported as a rate**, i.e. as percentage of the total population.

Persons living in households with very low work intensity (EC3064V) are people aged 0 to 59 years living in households where the adults work less than 20 % of their total work potential during the income reference year⁽¹⁴⁾.

Persons at risk of poverty after social transfers (EC3065V) are defined as persons with an equalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equalised disposable income (after social transfers).

Severely materially deprived persons (EC3066V): The collection 'material deprivation' covers indicators relating to economic strain, durables, housing and environment of the dwelling. Severely materially deprived persons have living conditions severely constrained by a lack of resources, they experience at least 4 out of 9 following deprivations items: cannot afford:

- i) to pay rent or utility bills,
- ii) keep home adequately warm,

⁽¹³⁾ <http://ec.europa.eu/eurostat/documents/1012329/6070906/Household+data+-+income.pdf>.

⁽¹⁴⁾ http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Persons_living_in_households_with_low_work_intensity.

- iii) face unexpected expenses,
- iv) eat meat, fish or a protein equivalent every second day,
- v) a week holiday away from home,
- vi) a car,
- vii) a washing machine,
- viii) a colour TV, or
- ix) a telephone.

Persons at risk of poverty or social exclusion (EC3067V) corresponds to the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. At risk-of-poverty are persons with an equalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equalised disposable income (after social transfers). Material deprivation covers indicators relating to economic strain and durables.

For further methodological information see: [http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_\(EU-SILC\)_methodology_-_private_households](http://ec.europa.eu/eurostat/statistics-explained/index.php/EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology_-_private_households)

6.5 Education and Training (TE)

6.5.1 Education and training provision (TE1)

Variables:

Code	Label	Required?	Unit of measurement
TE1001V	Number of children 0-4 in day care or school	Yes	Absolute Number
TE1026V	Students in higher education (ISCED level 5-8 from 2014 onwards), total	Yes	Absolute Number
TE1027V	Students in higher education (ISCED level 5-8 from 2014 onwards), male	Nice to have	Absolute Number
TE1028V	Students in higher education (ISCED level 5-8 from 2014 onwards), female	Nice to have	Absolute Number
TE1039V	Share of early leavers from education and training, total	Nice to have	Percentage of early leavers aged 18-24 on total population of this age class
TE1040V	Share of early leavers from education and training, male	Nice to have	Percentage of early leavers aged 18-24 on total population of this age class
TE1041V	Share of early leavers from education and training, female	Nice to have	Percentage of early leavers aged 18-24 on total population of this age class

Please note: Data on students in higher education are study-place based.

Students in higher education (ISCED level 5-8 from 2014 onwards), total, male, female

(TE1026V, TE1027V and TE1028V): If data is for 2016 reference year it refers to the school/academic year 2015/2016. As some universities have more than one campus that might be situated in two or more different cities, the students must be counted exactly there where they study (data should refer to the place/premises where they study and NOT to the legal address of the university). If the exact information is not available and estimations are not possible, this should be described in the metadata file. A compromise could be to divide the total number of students in this university by the number of the cities where the campuses/departments are located. This should be described in the metadata file and data should be flagged it with 'd'. An example for such a tricky case is university of Reggio Emilia and Modena that has an impact on two cities.

Online students have to be included only if they fulfil certain requirements.

- a. the students should participate in programmes provided by universities at the territory of the reported city;
- b. programmes representing at least one semester of full-time study;
- c. school-based or combined school- and work-based programmes are also relevant;
- d. formal education recognised by the relevant national education authorities;
- e. formal education in public (or state) and in private colleges, polytechnics or universities or in other post-secondary institutions;
- f. both full-time and part-time formal education (the time equivalent should be according point b); and
- g. formal education provided in educational institutions organised by Ministries other than the Ministry of Education (for example, Health, Agriculture, Social Affairs, Defence)

Day care institutions: Include all the institutions, public or private, which look after children during the day (for example: pre-school, kindergarten, nursery school or equivalent - ISCED 2007 level 0, ISCED 2011 01+02). The aim is to measure the demand and not the supply of day care (for all children aged <5 years old and not at home during the day). The data should include special schools or equivalents for children with special needs (e.g. handicapped). The data should exclude cultural/sporting/etc. activities if undertaken for leisure purposes rather than child care purposes. Child minders (qualified only) should be included if a direct payment/employment arrangement exists between child minder and parents. Baby sitters and au-pairs should be included.

The **number of children 0-4 in day care or school** should be given as a monthly average of all children inscribed in these institutions, which are in day care either part- or full-time during the day but the program must account for at least the equivalent of 2 hours per day and 100 days a year in order to be classified as day care.

Early leavers from training and education (Europe 2020 indicator) shall be expressed as a rate

(TE1039V to TE1041V) (formerly 'early school leavers'): The numerator refers to persons aged 18 to 24 fulfilling the following two conditions: first, the highest level of education or training attained is ISCED 0, 1, 2 or 3c short; second, they did not received any education or training in the four weeks preceding the survey. The denominator consists of the total population of the same age group, excluding no answers to the questions 'highest level of education or training attained' and 'participation to education and training'. This definition is in line with the EU Labour Force Survey.

Data until 2013 are classified according to ISCED 1997 and data as from 2014 according to ISCED 2011 (coding of educational attainment).

ISCED 2011:

ISCED 0: Early childhood education ('less than primary' for educational attainment)

ISCED 1: Primary education

ISCED 2: Lower secondary education

ISCED 3: Upper secondary education

ISCED 4: Post-secondary non-tertiary education

ISCED 5: Short-cycle tertiary education

ISCED 6: Bachelor's or equivalent level

ISCED 7: Master's or equivalent level

ISCED 8: Doctoral or equivalent level

Correspondence between ISCED 2011 and ISCED 1997 levels (at 1 digit)

ISCED 2011 (data from 2014 onwards)	ISCED 1997 (data up to 2013)
ISCED 01	-
ISCED 02	ISCED 0
ISCED 1	ISCED 1
ISCED 2	ISCED 2
ISCED 3 (content of category has been modified slightly)	ISCED 3
ISCED 4 (content of category has been modified slightly)	ISCED 4
ISCED 5	
ISCED 6	ISCED 5
ISCED 7	
ISCED 8	ISCED 6

6.5.2 Educational Qualifications (TE2)**Variables:**

Code	Label	Required?	Unit of measurement
TE2025V	Persons aged 25-64 with ISCED level 0, 1 or 2 as the highest level of education	Nice to have	Absolute Number
TE2028V	Persons aged 25-64 with ISCED level 3 or 4 as the highest level of education	Nice to have	Absolute Number
TE2031V	Persons aged 25-64 with ISCED level 5, 6, 7 or 8 (from 2014 onwards) as the highest level of education	Nice to have	Absolute Number

For exhaustive definitions of the ISCED levels see the chapter on TE1 above!**Please note:** All educational data included in TE2 domain are residence based.

6.6 Environment (EN)

6.6.1 Air Quality and Noise (EN2)

All variables listed below will be collected centrally.

Variables:

Code	Label	Required?	Unit of measurement
EN2002V	Number of days ozone O ₃ concentrations exceed 120 µg/m ³	Centrally collected	Absolute Number
EN2003V	Number of hours nitrogen dioxide NO ₂ concentrations exceed 200 µg/m ³	Centrally collected	Absolute Number
EN2005V	Number of days particulate matter PM ₁₀ concentrations exceed 50 µg/m ³	Centrally collected	Absolute Number
EN2025V	Accumulated ozone concentration in excess 70 µg/m ³	Centrally collected	µg/m ³
EN2026V	Annual average concentration of NO ₂ (µg/m ³)	Centrally collected	µg/m ³
EN2027V	Annual average concentration of PM ₁₀ (µg/m ³)	Centrally collected	µg/m ³
EN2037V	Annual average concentration of PM _{2.5} (µg/m ³)	Centrally collected	µg/m ³

6.6.2 Water (EN3)

Variables:

Code	Label	Required?	Unit of measurement
EN3003V	Total use of water	Nice to have	m ³
EN3010V	Price of a m ³ of domestic water	Nice to have	Euro
EN3011V	Share of the urban waste water load (in population equivalents)	Nice to have	Percentage
EN3012V	Old label: Share of population connected to potable drinking water system New label: Population connected to public water supply	Nice to have	Percentage
EN3013V	Share of population connected to sewerage treatment system	Nice to have	Percentage

On advice from the thematic unit at Eurostat the 'dwelling concept' has been changed to the 'population concept'. This was proposed in order to improve data quality and measure more exactly the number of people connected to the different systems. Figures about people connected will be more accurate applying the population concept, because the use of the dwelling concept just relates to dwellings which could be of different size and consequently it is not possible to conclude about the population connected. Another reason for the use of the population concept is the comparability with

national data.

The name of the variable '**total water consumption (cubic metres per annum)** (EN3003V)' needed to be changed to '**total use of water**'. This was necessary for the harmonisation of the names in the collection with official national water statistics. The latter refers to the **water use**. It is defined as water that is actually used by end domestic use, irrigation, or industrial processing. It excludes returned water. Water use is part of '**total water consumption**' (the previous name of this variable), which covers water abstracted which is no longer available for use because it has evaporated, transpired, been incorporated into products and crops, consumed by man or livestock, ejected directly to the sea, or otherwise removed from freshwater resources. Water losses due to leakages during the transport of water between the point or points of abstraction and the point or points of use are excluded. However, it seems that for previous data collections the correct figures have been collected since the total water consumption was defined as equal to consumptive water use plus discharges to the sea.⁽¹⁵⁾

Sewerage treatment implies a connection to a central sewerage network excluding individual cesspools.

Price of a cubic metre of water from public water supply in the domestic sector (EN3010V): In case of different prices, a central tendency (arithmetic mean, median, mode etc.) should be used. This price usually covers/includes the price for sewerage treatment. The table below gives detailed information on how to calculate the variable. In case that in a city there is a constant monthly water supply fee, it should be included in 'all other charges and taxes'. VAT should be also included.

	Water supply 1 m ³ including sewerage
Reference Quantity	1
Reference Unit	m ³
Service	annual water supply plus sewerage collection
Consumption	1 m ³ (for each - water supply, sewerage)
Price includes	basic fee, rent of the meter (as recommended for this level of consumption), sewerage charge and taxes, all other charges and taxes

Public water supply:

Water supplied by economic units engaged in collection, purification and distribution of water (including desalting of sea water to produce water as the principal product of interest, and excluding treatment of wastewater solely in order to prevent pollution). It corresponds to division 36 (NACE/ISIC) independently of the sector involved, but excluding systems operation for agricultural irrigation such as irrigation canals, which should be reported under 'other supply'. Deliveries of water from one public supply undertaking to another are excluded.

Percentage of the urban waste water load (in population equivalents) treated according to the applicable standard (EN3011V): Wastewater is generated by private households and economic activities. To allow measurements to take place, wastewater from industry and other sources is expressed as 'population equivalent' (p.e.)⁽¹⁶⁾. This term and others are defined in the [Council Directive 91/271/EEC](#) of 21 May 1991 concerning urban waste-water treatment.

⁽¹⁵⁾ The definition is based on the concepts and definitions used in the **OECD/Eurostat Joint Questionnaire (JQ) on the Environment**, section Inland Waters (IW). This is Eurostat's main tool for water data collections, and it is the accepted world standard for water statistics. Other important water data collections such as the questionnaire used by the UN Statistical Division build on it and further international harmonisation with other organisations such as the UNEP, FAO and UNECE are currently on the way under the umbrella of the Water Statistics subgroup of the Intersecretariate Working Group on Environment Statistics (IWG-ENV).

⁽¹⁶⁾ One population equivalent (p.e.) means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day.

Urban wastewater treatments:

Primary treatment - most basic level of treatment of wastewater.

Secondary treatment - treatment involving biological treatment with secondary settlement or other processes in order to remove organic matter from the wastewater. This standard is applicable to 'normal areas' as defined by the Directive in each country.

Tertiary treatment - more stringent treatment than secondary treatment. It includes the removal of some specific substances such as nitrogen and / or phosphorus, or some other specific pollutants from urban wastewater (e.g. bacteria through disinfection by ultra-violet light). This standard is applicable to 'sensitive areas' in each country. The whole country can be designated as a 'sensitive area'. The Directive offers Member States different options for tertiary treatment standards in sensitive areas. Member State can choose to:

- (i) apply tertiary treatment for all agglomerations (cities) having the pollution load of more than 10 000 p.e. (i.e. apply Articles 5(2-3) of Directive 91/271/EEC), or
- (ii) to show overall reduction rate of 75 % of total Phosphorus and total Nitrogen removal from all wastewater treatment plants discharging waste water into a designated sensitive area (i.e. apply Article 5(4) of Directive 91/271/EEC).

Data on waste water treatment standards applied for each urban area can be obtained from the water treatment companies, local authorities or national Ministries of the Environment.

6.6.3 Waste Management (EN4)

Variable:

Code	Label	Required?	Unit of measurement
EN4008V	Municipal waste generated (domestic and commercial), total – 1000 t	Yes	1000 t

The data only refer to the waste flows collected under the responsibility of the local administration including waste collected on behalf of the local authority by private companies or regional associations founded for that purpose.

Municipal waste (MW) (EN4008V) according to the definition in the **OECD/Eurostat questionnaire on waste** includes chapters 20 and 15.1 of the List of Waste (LoW). These cover household and similar wastes, also:

- bulky waste (e.g. white goods, old furniture, mattresses); and
- garden waste, leaves, grass clippings, street sweepings, the content of litter containers, and market cleansing waste, if managed as waste.

It includes waste originating from:

- households,
- commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings).

It also includes:

- waste from selected municipal services, i.e. waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste.

It includes collected waste from these sources:

- door-to-door through traditional collection (mixed household waste), and
- fractions collected separately for recovery operations (through door-to-door collection and/or through voluntary deposits).

For the purpose of this questionnaire, municipal waste refers to waste defined as above, collected by or on behalf of municipalities.

The definition also includes waste from the same sources and similar in nature and composition which:

- are collected directly by the private sector (business or private non-profit institutions) not on behalf of municipalities (mainly separate collection for recovery purposes),
- originate from rural areas not served by a regular waste service, even if they are disposed by the generator.

The definition excludes:

- waste from municipal sewage network and treatment,
- municipal construction and demolition waste.

Chapter 20 contains a number of wastes separately collected. However, packaging waste is excluded in this chapter and classified under chapter 15. Several countries organising their data collection on the basis of the List of Waste are known to exclude packaging waste generated by households from MW statistics because it is not classified under chapter 20 LoW. These countries underestimate their municipal waste generation, and their efforts in recycling of waste generated by households are not fully taken into account in the reporting on MW.

Useful links:

Environmental Data Centre on Waste Municipal waste:

<http://ec.europa.eu/eurostat/web/waste/municipal-waste-generation-and-treatment-by-treatment-method>

Municipal waste statistics guidance:

<http://ec.europa.eu/eurostat/documents/342366/351806/Municipal-waste-statistics-guidance.pdf>

Statistics Explained Article 'Municipal waste statistics': http://ec.europa.eu/eurostat/statistics-explained/index.php/Municipal_waste_statistics

6.6.4 Land Use (EN5)

All variables listed below will be collected centrally based on Copernicus Urban Atlas data⁽¹⁷⁾.

Variables:

Code	Label	Required?	Unit of measurement
EN5200V	Share of land (%): Continuous residential urban fabric	Centrally collected	Percentage
EN5201V	Share of land (%): Discontinuous residential urban fabric	Centrally collected	Percentage
EN5202V	Share of land (%): Industrial, commercial, public, military and private units	Centrally collected	Percentage

⁽¹⁷⁾ <http://land.copernicus.eu/local/urban-atlas>

Code	Label	Required?	Unit of measurement
EN5203V	Share of land (%): Transport infrastructure	Centrally collected	Percentage
EN5204V	Share of land (%): Other artificial areas	Centrally collected	Percentage
EN5205V	Share of land (%): Green urban areas and sports and leisure facilities	Centrally collected	Percentage
EN5206V	Share of land (%): Agricultural areas	Centrally collected	Percentage
EN5207V	Share of land (%): Natural areas	Centrally collected	Percentage

6.7 Travel and Transport (TT)

Variables:

Code	Label	Required?	Unit of measurement
TT1080V	Cost of a combined monthly ticket (all modes of public transport) for 5-10 km in the central zone	Yes	Euro
TT1057V	Number of private cars registered	Nice to have	Absolute Number
TT1003V	Share of journeys to work by car	Nice to have	Percentage
TT1010V	Share of journeys to work by public transport (rail, metro, bus, tram)	Nice to have	Percentage
TT1006V	Share of journeys to work by motor cycle	Nice to have	Percentage
TT1007V	Share of journeys to work by bicycle	Nice to have	Percentage
TT1008V	Share of journeys to work by foot	Nice to have	Percentage
TT1012V	Share of journeys to work by car or motor cycle	Nice to have	Percentage
TT1019V	Average time of journey to work (minutes)	Nice to have	Minutes
TT1020V	Average length of journey to work by private car (km)	Nice to have	Km
TT1064V	People commuting into the city	Nice to have	Absolute Number
TT1065V	People commuting out of the city	Nice to have	Absolute Number
TT1079V	Length of bicycle network (dedicated cycle paths and lanes)	Nice to have	Km
TT1081V	Cost of a taxi ride of 5 km to the centre at day time	Nice to have	Euro
TT1060V	Number of deaths in road accidents	Yes	Absolute Number

Private passenger car registered (TT1057V): Passenger car registered by a natural person.

Car registrations: Total number of private passenger cars registered (by natural persons, not business, enterprises, so no taxis or hire cars registered by enterprises) to addresses within boundary on the 1st of January of the reference year. This is the total stock of cars, not just new registrations. Cars registered but no longer in use should be excluded. If the figure includes these

cars it should be stated in the footnote.

Passenger car: the definition of the 'passenger car' should follow that of the Eurostat '[glossary for transport statistics](#)' but exclude cars registered by enterprises. In this context a **passenger car is defined as follows:** Road motor vehicle, other than a moped or a motor cycle, intended for the carriage of passengers and designed to seat no more than nine persons – including the driver. The term 'passenger car' covers micro-cars (needing no permit to be driven), taxis and hired passenger cars, provided that they have fewer than ten seats. This category may also include pick-ups.

Journey to work refers to the usual trip (from the place of residency to the work place, including change of transport mode) of the persons employed within the boundary regardless the place of residency (commuters plus persons employed that live within the boundary).

Average time: Average time in minutes taken to travel between the place of residence and the work place (one way). The work place must be located within the specified boundary while the place of residency might be anywhere, including across borders.

People commuting into the city area (TT1064V): Residents of areas outside the city, whose employment location or client premises are within the city area. Students shall not be included if they are not commuting to work.

People commuting out of the city area (TT1065V): Residents of the city area, whose employment location or client premises are outside the city area. Students shall not be included if they are not commuting to work.

Share of the journeys to work by transport mode: The main mode must be reported so that all shares of transport mode add up to 100 %. TT1012V is an exception.

Public transport is the network of buses, trains, tram etc. that run according to a planned time schedule and that anyone can use. The provider of the above mentioned services may be either the municipal authority or privately owned enterprises.

Length of bicycle network (TT1079V) includes both dedicated cycle tracks and cycle lanes. Cycle lanes are part of a carriageway designated for cycles and distinguished from the rest of the carriageway by longitudinal road markings. Cycle tracks are independent roads or part of a road designated for cycles and sign-posted as such. A cycle track is separated from other roads or other parts of the same road by structural means. mopeds may also be allowed to use cycle lanes or tracks.

Cost of a taxi ride of 5 km to the centre at day time (TT1081V): In most cities there are several taxi service providers and the fee can depend on the waiting time (due to traffic jams) as well. This figure should be estimated using central tendencies (for example: mean).

Cost of a combined monthly ticket (all modes of public transport) for 5-10 km in the central zone (TT1080V): In case of price change, the weighted-average has to be provided. The countries in which the cities have only one mode of transport should provide the real price for this service explaining that in the metadata file. If a city has a public transport, that is free of charge, the value provided should be 0. If a city does not have a public transport, the NSI should not provide any record for this variable as it is not applicable.

Motorcycle: Two-, three- or four-wheeled road motor vehicle not exceeding 400 kg (900 lb) of unloaded weight. All such vehicles with a cylinder capacity of 50 cc or over are included, as are those under 50 cc which do not meet the definition of moped.

Deaths in road accidents (TT1060V): People who were killed outright or who died within 30 days as a result of the accident. If it happens in the new reference year this number has to be counted in the previous one. All Member States should follow the international standard of 30 days established by the ECMT (European Conference of Ministers of Transport, an OECD body). Please note that, in order to ensure the geographical comparability, the preferred data source is the Police data complemented by the Hospital data.

6.8 Culture and Recreation (CR)

6.8.1 Culture and Recreation (CR1)

Variables:

Code	Label	Required?	Unit of measurement
CR1003V	Number of cinema seats (total capacity)	Nice to have	Absolute Number
CR1005V	Cinema attendance (per year)	Nice to have	Absolute Number
CR1007V	Number of museum visitors	Nice to have	Absolute Number
CR1008V	Number of theatres	Nice to have	Absolute Number
CR1010V	Number of public libraries (all distribution points)	Nice to have	Absolute Number
CR1015V	Number of public swimming pools (indoor and outdoor, excluding beaches)	Nice to have	Absolute Number

Cinema (also called a **movie house**, **movie theatre**, **film theatre**, **film house** or **picture theatre**) is a venue, usually a building, for viewing motion pictures ('movies' or 'films'). It is defined as a commercial operation catering to the general public, who attend by purchasing a ticket. The **number of cinema seats** (CR1003V) is the total number of seats in all cinemas. **Cinema attendance** (CR1005V) refers to the total number of tickets sold, referring to all films screened during the year.

Museums can either be public or private. A Museum is defined as a 'non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment' ([International Council of Museums \(ICOM\) \(2007\)](#), Article 3, Statutes adopted by the 22nd General Assembly, Vienna, Austria, 24 August 2007).

Theatres are public or private registered venues (not street theatre, school theatres etc.). If multiple purpose venues are included, this is marked in the footnote (free-format text). The intention of the variable **number of theatres** (CR1013V) is to know about the number of locations within the city, not the individual halls/scenes (one theatre may have a musical/opera scene, intimate play scene etc.).

Number of public libraries (CR1010V) includes counting of all distribution points, even if there are several libraries in the same building. Target of this variable is to know about the publicly accessible general libraries, where you do not need to be a member of an association or to be a student. Libraries of very specific subjects or subject related research libraries are not included. A source for information is INTAMEL Metro = International Association of metropolitan Libraries, that is part of IFLA = International Federation of Library Associations and Institutes (www.ifla.org).

Number of public swimming pools (indoor and outdoor, excluding beaches) (CR1015V): A public swimming pool is a pool that may be used by many people or by the general public. Pools used exclusively by a small group of people should be excluded, for example: pools in health clubs, fitness centres and private clubs; pools for relaxation (hot tubs and spas) in hotels and massage parlours. Public pools are often found as part of a larger leisure centre or recreational complex. These centres often have more than one pool. Nevertheless, it should be counted as one public swimming pool. Seasonal pools shall be included if they are open at least for six months during the year.

6.8.2 Tourism (CR2)

Variables:

Code	Label	Required?	Unit of measurement
CR2001V	Total nights spent in tourist accommodation	Yes	Absolute Number
CR2009V	Number of bed-places in tourist accommodation establishments	Yes	Absolute Number

Previous data collection on tourism statistics has been based on [Council Directive 95/57/EC of 23 November 1995](#), which has been repealed by [Regulation \(EU\) No 692/2011](#) of the European Parliament and of the Council of 6 July 2011 concerning European statistics on tourism and the [Commission implementing Regulation \(EU\) No 1051/2011](#). Some of the variable titles needed to be adapted to the label used in official national and regional tourism statistics. Consequently definitions were as well adapted if necessary.

Tourist accommodation establishments (see [Regulation \(EU\) No 692/2011](#)), means a local kind-of-activity unit (as defined in the Annex to Council Regulation (EEC) No 696/93 of 15 March 1993 on the statistical units) providing as a paid service - although the price might be partially or fully subsidised - short-term or short-stay accommodation services as described in groups 55.1 (hotels and similar accommodation), 55.2 (holiday and other short-stay accommodation) and 55.3 (camping grounds, recreational vehicle parks and trailer parks) of NACE Rev. 2.

A **night spent (or overnight stay)** is each night a guest / tourist (resident or non-resident) actually spends (sleeps or stays) in a tourist accommodation establishment or non-rented accommodation. It could be either a business or recreational overnight stay. The accommodation establishment should be located within the specified boundaries. Data should be provided annually.

Number of bed-places is determined by the number of persons who can stay overnight in the beds set up in the establishment, ignoring any extra beds that may be set up by customer request. The term bed place applies to a single bed, double bed being counted as two bed places. The unit serves to measure the accommodation capacity of the establishment. Data should be provided annually.

More information on definitions can be found in '[Community methodology on tourism statistics](#)'.

7

Data quality

7. Data quality

In order to assure a high data quality, existing validation procedures have been analysed and adapted to recent standards. A complete set of validation rules have been developed. They are classified in the following way:

Validation level 0

Validation level 0 precedes the data transmission

1. Check whether the required structure of the file has been used for fill in the data.
2. Check if the file has the agreed format and name acceptable for EDAMIS.
3. Type check: Rules that ensure that the correct type of data is recorded for each indicator or variable. By setting the data type as number, only numbers could be entered e.g. 10, 12, 14. This prevents anyone from entering text such as 'ten' or 'twelve'.
4. Length check: Rules that check that a variable is recorded with the required number of characters or digits (use of the required unit of measurement).
5. Range check: Rules that check whether a variable takes a value in an allowed range of values. The range can be bounded on both sides or on one side only.
6. Presence check: Rules that check whether mandatory variables have been reported.
7. Allowed characters check: Rules that check whether the data for a given variable only contain allowed digits or characters.
8. Code list check: Rules that check whether variables with associated code lists only take values among the allowed codes

Please note that data should be transmitted in csv format.

Validation level 1 (based on the Edit tool)

Validation level 1 consists of 'intra-dataset checks'.

1. Uniqueness check: Rules that check that certain variables or combinations of variables do not contain duplicates in a dataset.
2. Control check: This type of rule applies to data with a hierarchical structure (e.g. total population, male and female population). It checks whether the values of aggregated categories are consistent with the sum of the values of the components. They should be equal if all components are reported or greater than the sum of reported components if some of them are missing.

3. Spatial level control check: This type of rule is similar to the control check but it refers to the comparison of geographical aggregates at different levels of aggregation.
4. Time series check: Rules that check whether variables demonstrate unusual evolution over time.

Validation level 2 (based on the Edit tool)

Validation level 2 consists of 'inter-datasets checks'

1. Consistency check: Rules that check whether the values of related variables in different data sets are consistent with each other.
2. Revised data integrity check: Rules that compare the values of data for the same reference period and area between different deliveries of the same dataset.

8

Other information

8.1 Additional international sources on urban issues:

[Council of European Municipalities and Regions \(CEMR\)](#)

[European Environment Agency \(EEA\)](#)

[European Observation Network for Territorial Development \(ESPON\)](#)

[European Regional Science Association \(ERSA\)](#)

[Network of major European cities \(Eurocities\)](#)

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Acronyms and abbreviations

CEMR	Council of European Municipalities and Regions
CODED	Eurostat's Concepts and Definitions Database
DG REGIO	Directorate General on Regional and Urban Policy
EEA	European Environment Agency
ERSA	European Regional Science Association
ESPON	European Observation Network for Territorial Development
ESS	European Statistical System
ETHOS	European Typology on Homelessness and Housing Exclusion
EUROBAROMETER	Series of surveys regularly performed on behalf of the European Commission
Eurocities	Network of major European cities
FEANTSA	European Federation of National Organizations working with the Homeless
ICD	International Statistical Classification of Diseases and Related Health Problems
ISCED	International Standard Classification of Education
LAU	Local Administrative Unit
LFS	Labour Force Survey
FUA	Functional Urban Area
NACE	Statistical Classification of Economic Activities of the European Communities
NSI	National Statistical Institute
NUAC	National Urban Audit Coordinators
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
SDC	Sub-City District
SILC	Statistics on Income and Living Conditions
URBACT	European exchange and learning program promoting sustainable urban development (part of EU Cohesion Policy).
UNECE	United Nations Economic Committee for Europe
WHO	World Health Organization

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Methodological manual on city statistics

This methodological manual of city statistics aims to provide data suppliers with the necessary information to achieve coherence and comparability of the data collected, and to support users in understanding and interpreting the meaning of the data for their own purposes.

The core part of the methodological manual of city statistics is the 'Glossary' chapter, where the individual variables and indicators are defined and described together with concrete examples. In addition to the 'Glossary', complementary information on the data quality and methodology as well as explanations on the spatial dimensions and coding system are given in order to guarantee a harmonised and comparable dataset.

For more information

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