



# FSO News

Embargo: 18.12.2014, 11:00

---

21 Regional and international disparities

Neuchâtel, 12.2014

## Switzerland's areas with urban character 2012

A new definition of agglomerations and  
other urban area categories

---

**For further information:**

Viktor Goebel, FSO, Section Environment, Sustainable Development, Territory, tel. +41 (0)58 463 67 23

Email: [viktor.goebel@bfs.admin.ch](mailto:viktor.goebel@bfs.admin.ch)

Order number: 1482-1200

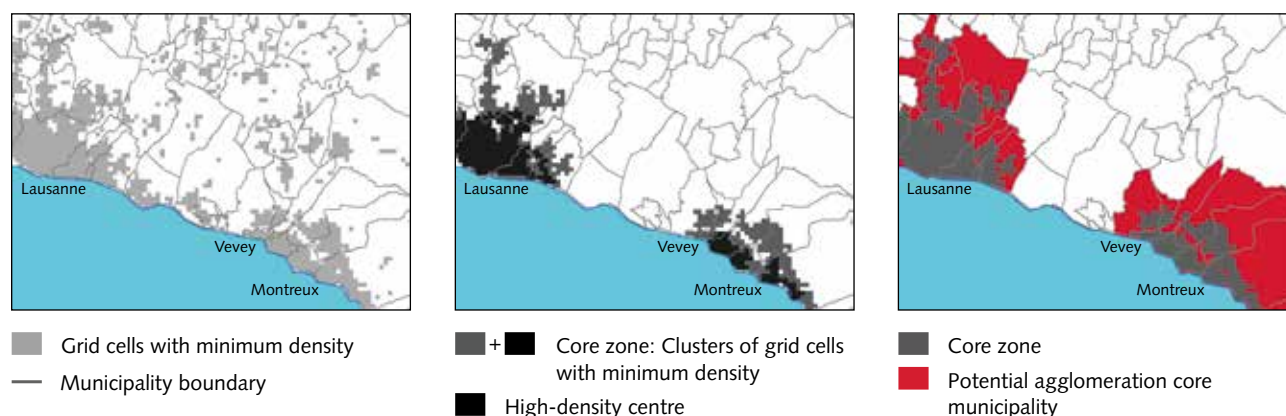
# Switzerland's areas with urban character 2012

Switzerland's areas with urban character 2012 include 49 agglomerations, one less than during the last definition in 2000. Agglomerations have however extended in size. 73% of the population and 79% of the jobs are located in the agglomerations. These results are based on the Federal Statistical Office's (FSO) revised definition of areas with urban character which is used for statistical analyses and enables comparisons to be made between different spatial categories. It was developed from a national perspective and is based on standard criteria and thresholds for the whole of Switzerland, independent of historical circumstances. In order to give an accurate depiction of urbanisation, new spatial categories were also created such as for municipalities which are oriented towards several agglomerations at the same time. The definition of a city or town has also been revised. According to this definition, there are 162 statistical cities or towns in Switzerland in the year 2012, 43 more than in 2000.

## New definition of areas with urban character

The FSO has defined agglomerations and urban areas for over a century. There has been considerable spatial development since the last time areas with urban character were defined based on the population census in 2000. Population growth, migration of the urban population into the urban fringes and better transport infrastructure have brought about major changes in spatial structure. Furthermore, the new population census and structural and demographic business statistics are mainly based on register data, whereby the data sets have changed compared with the written questionnaire surveys previously carried out. It was thus necessary for the FSO to develop a new method to define agglomerations in order to be able to make high-quality statistical assertions about the current urbanisation process (the new definition is explained on page 8). This showed that areas with urban character can only be described to a certain extent using agglomerations. For this reason, two new categories of urbanised areas outside the agglomerations have been created.

Diagram 1: Identification of potential agglomeration cores via grid data



Density: inhabitants + jobs + overnight stays as equivalents per km<sup>2</sup> (more explications of the new definition on page 8)

Sources: FSO – STATPOP, STATENT, HESTA; SWISSTOPO

© FSO, Neuchâtel 2014

## Agglomerations based on a morphological and a functional approach

The new definition firstly identifies in an indirect manner, the visible architectural structures such as urban and commercial areas. A grid process is used that is independent of administrative boundaries (diagram 1). This reduces the sensitivity of the agglomeration definition with regard to municipality mergers. Potential agglomeration cores are then defined using thresholds for density and the number of inhabitants and jobs in a connected area (morphological approach). The importance of tourist centres is taken into account through additional consideration of overnight stays.

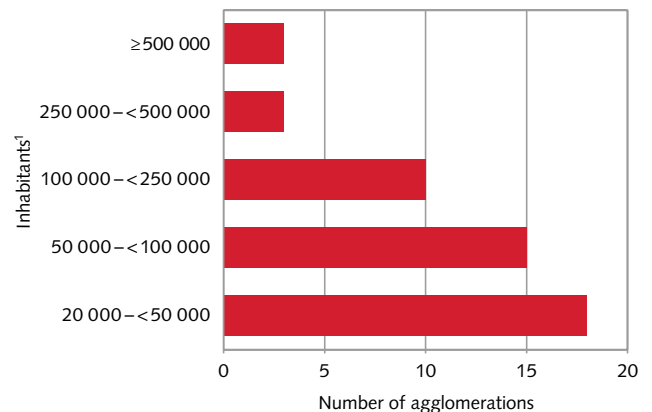
There are often also important infrastructural facilities and services available in places with a high population density and a high concentration of jobs. Due to the resulting attractiveness, the (previously defined) potential agglomeration cores form a catchment area within which people move or communicate to fulfil their needs and interests. This catchment area is called an agglomeration commuting zone. This can be recorded in statistical terms using commuting patterns (functional approach).

The municipalities which fulfil the criteria of core municipalities or commuting zone municipalities must contiguously have at least 20,000 inhabitants (incl. equivalents from overnight stays) to be considered an agglomeration. The agglomerations may also cross national boundaries as the spread of agglomeration cores is not stopped by national borders.

The new agglomeration definition is thus based on a morphological (density of inhabitants and jobs) and functional (commuter flows) understanding of urbanism.

## Agglomerations by size

G 1



<sup>1</sup> Permanent resident population 2012, including the foreign part of cross-border agglomerations

Source: FSO













© FSO, Neuchâtel 2014

## Diverse agglomeration landscape

Switzerland has a diverse urban structure which contains large agglomerations with an international spread but also smaller agglomerations which tend to be of regional importance (M1 and G1). The largest of the 49 newly defined agglomerations is Zurich with 1.28 million inhabitants, followed by Basel and Geneva (around 823,000 and 819,000 inhabitants, both crossing national boundaries). These three agglomerations form zones that extend up to 35 km from the centre. Switzerland's smallest agglomeration is Martigny with over 20,000 inhabitants. Most of the agglomerations are situated in the Central Plateau where the majority of the population live. Others can be found in the Rhine valley, the Rhone Valley and Ticino. Twelve agglomerations cross national boundaries, in five cases the foreign population is predominant (for example Como-Chiasso, Konstanz-Kreuzlingen).

59% of the population and 70% of jobs were located in the core agglomeration municipalities which accounted for 12% of the Swiss land surface in 2012 and 38% of the settlement and urban areas (G2). This ratio is more balanced in the agglomeration commuting zones in which 15% of the population lived in 17% of the surface area. In total, 73% of the population lived in agglomerations. A total of around 1.2 million people lived in the foreign areas of the agglomerations which cross national boundaries, corresponding to 17% of the total population of all agglomerations.

**Diagram 2: The 4 main categories of the urban-type space** (For details to the method see page 8)

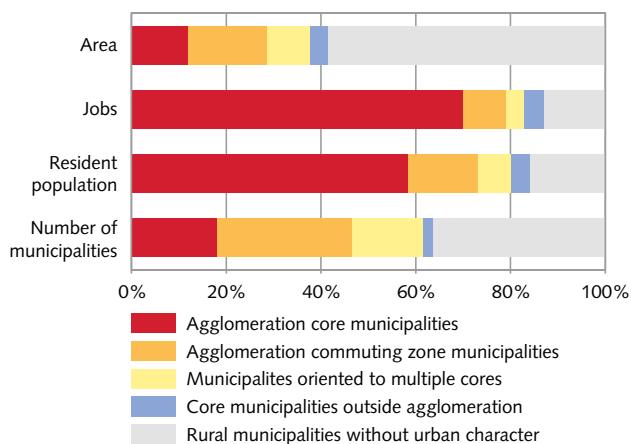
| Category & description   | Examples  |
|--|---|
| <b>Agglomeration core municipality (primary and secondary cores)</b><br>They contain a core with a high population and employment density plus buildings with dense architectural relations. Alone or with other municipalities they form an agglomeration core.                       |  Zürich ZH  La Chaux-de-Fonds NE  Köniz BE            |
| <b>Agglomeration commuting zone municipality</b><br>At least one third of its active population works in one particular agglomeration core.  |  Dörflingen SH  Wiesendangen ZH  Cossonay VD          |
| <b>Municipality oriented to multiple cores</b><br>At least one third of its active population is working in several cores.   |  Val-de-Ruz NE  Saxon VS  Gambarogno TI               |
| <b>Core municipality outside agglomeration</b><br>They contain a core with a high population and employment density plus buildings with dense architectural relations. Due to insufficient size the cores can form neither alone nor together with other communities an agglomeration. |  Oensingen SO/Niederbipp BE  Murten FR  St. Moritz GR |

Sources: FSO, www.luftbilder-der-schweiz.ch, Swiss Air Force, Department of Geography, University of Zurich; Wikimedia (Ikiwaner, Thomas Guignard, Marc Mongenet, Hadi)

© FSO, Neuchâtel 2014

**Population, jobs, and area by categories of municipalities<sup>1</sup>**

G 2



<sup>1</sup> only Swiss municipalities

Source: FSO – STATENT 2011, STATPOP 2012

© FSO, Neuchâtel 2014

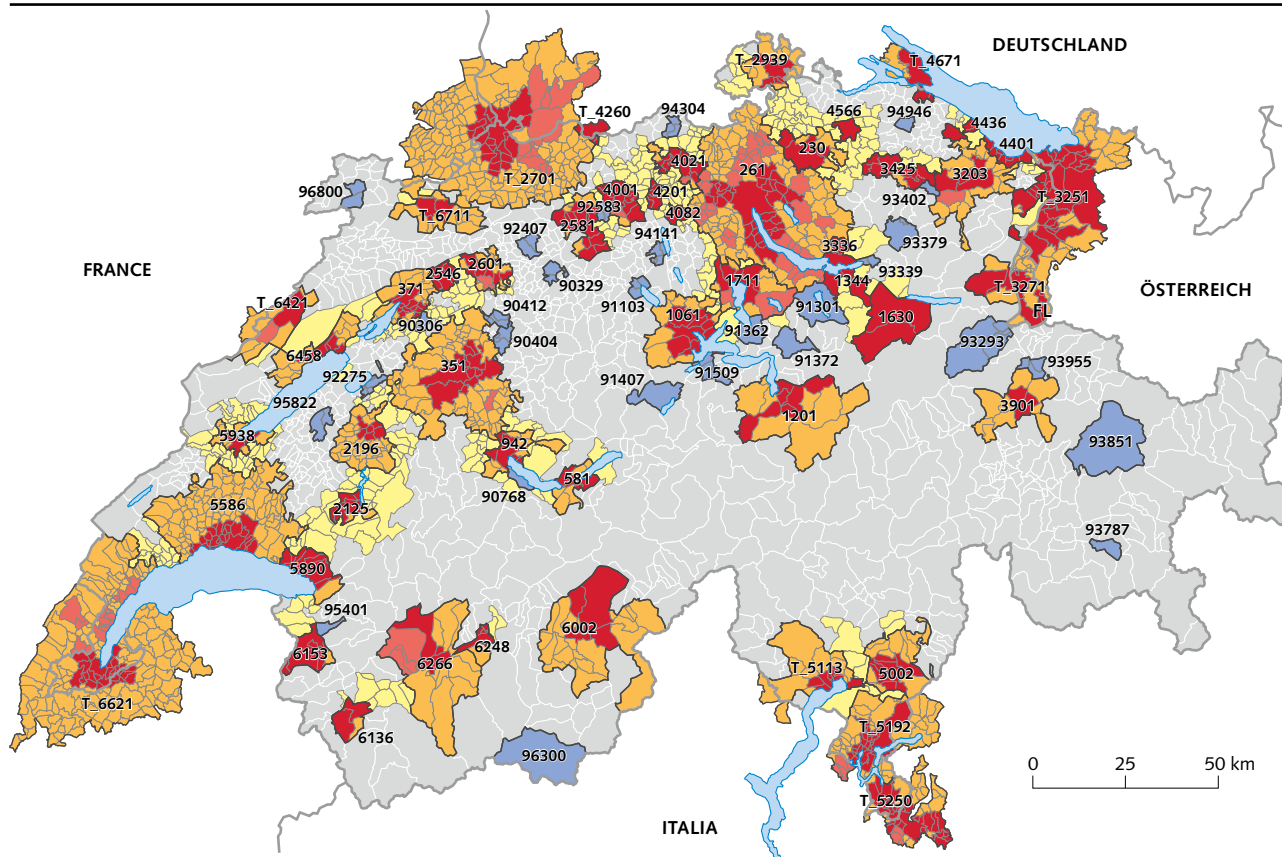
**Two new urbanised municipality categories outside agglomerations**

Many agglomerations are situated in the sphere of influence of two or more agglomeration cores. They are therefore recorded as a separate statistical category “municipality oriented to multiple cores” (diagram 2). They are situated between the agglomerations and like municipalities in the commuting zone also have a high share of commuters towards the core agglomeration municipalities. 350 municipalities with a total of 576,000 inhabitants (7% of the resident population in Switzerland) are attributed to this newly defined area with a multiple orientation.

Outside the agglomerations, there are also municipalities or groups of municipalities which also have cores with a high density of inhabitants<sup>1</sup> and jobs but do not form agglomerations because they are too small (see definition on page 8). Therefore, 57 “core municipalities outside agglomerations” are recorded. Of these, 12 municipalities form a core, the other 45 form groups consisting of 2 to 5 municipalities, totalling 16 cores altogether.

Cores outside agglomerations are often regional centres such as Lyss, Payerne, Murten, Schwyz, Landquart or Zermatt.

<sup>1</sup> including equivalents from overnight stays



**Municipality categories**

- Core municipality of agglomeration (principle core)
- Core municipality of agglomeration (secondary core)
- Municipality oriented to multiple cores
- Core municipality outside agglomeration
- Rural municipality without urban character
- Municipality in the commuting zone of agglomeration

**Code\* and name of agglomeration**

|      |              |        |                         |        |                            |        |                                 |
|------|--------------|--------|-------------------------|--------|----------------------------|--------|---------------------------------|
| 230  | Winterthur   | 2581   | Olten – Zofingen        | T_4260 | Bad Säckingen – Stein (AG) | 5938   | Yverdon-les-Bains               |
| 261  | Zürich       | 2601   | Solothurn               |        | (DE/CH)                    | 6002   | Brig – Visp                     |
| 351  | Bern         | T_2701 | Basel (CH/DE/FR)        | 4401   | Arbon – Rorschach          | 6136   | Martigny                        |
| 371  | Biel/Bienne  | T_2939 | Schaffhausen (CH/DE)    | 4436   | Amriswil – Romanshorn      | 6153   | Monthey                         |
| 581  | Interlaken   | 3203   | St. Gallen              | 4566   | Frauenfeld                 | 6248   | Sierre                          |
| 942  | Thun         | T_3251 | Rheintal (AT/CH)        | T_4671 | Konstanz – Kreuzlingen     | 6266   | Sion                            |
| 1061 | Luzern       | T_3271 | Vaduz – Buchs (LI/CH)   |        | (DE/CH)                    | T_6421 | La Chaux-de-Fonds –             |
| 1201 | Altdorf (UR) | 3336   | Rapperswil-Jona – Rütli | 5002   | Bellinzona                 |        | Le Locle (CH/FR)                |
| 1344 | Lachen       | 3425   | Wil (SG)                | T_5113 | Locarno (CH/IT)            | 6458   | Neuchâtel                       |
| 1630 | Glarus       | 3901   | Chur                    | T_5192 | Lugano (CH/IT)             | T_6621 | Genève (CH/FR)                  |
| 1711 | Zug          | 4001   | Aarau                   | T_5250 | Como – Chiasso – Mendrisio | T_6711 | Delémont (CH/FR)                |
| 2125 | Bulle        | 4021   | Baden – Brugg           |        | (IT/CH)                    |        |                                 |
| 2196 | Fribourg     | 4082   | Wohlen (AG)             | 5586   | Lausanne                   |        | * T_xxxx indicates cross-border |
| 2546 | Grenchen     | 4201   | Lenzburg                | 5890   | Vevey – Montreux           |        | agglomerations                  |

**Code and name of core outside of agglomerations**

|       |                |       |             |       |                |       |                       |
|-------|----------------|-------|-------------|-------|----------------|-------|-----------------------|
| 90306 | Lyss           | 91362 | Arth        | 93293 | Mels – Sargans | 94141 | Reinach (AG)          |
| 90329 | Langenthal     | 91372 | Schwyz      | 93339 | Uznach         | 94304 | Döttingen – Böttstein |
| 90404 | Burgdorf       | 91407 | Sarnen      | 93379 | Wattwil        | 94946 | Weinfelden            |
| 90412 | Kirchberg (BE) | 91509 | Stans       | 93402 | Flawil         | 95401 | Aigle                 |
| 90768 | Spiez          | 92275 | Murten      | 93787 | St. Moritz     | 95822 | Payerne               |
| 91103 | Sursee         | 92407 | Oensingen   | 93851 | Davos          | 96300 | Zermatt               |
| 91301 | Einsiedeln     | 92583 | Schönenwerd | 93955 | Landquart      | 96800 | Porrentruy            |

Source: FSD – Section Environment, Sustainable Development, Territory (UNR)

© FSD, ThemaKart, Neuchâtel 2014



## Spatial classification of areas with urban character

The categories allocated to the individual municipalities are grouped together, according to the criteria used – morphological or functional – into overarching spatial types (T 1).

In addition to the agglomeration municipalities, areas with urban character also include municipalities that are oriented to multiple cores as well as core municipalities outside of agglomerations.

The extent to which individual spatial types demonstrate rural characteristics can only be determined with a separate methodology which has yet to be established. Municipalities that are oriented to multiple cores or commuting zone municipalities can be rural in character although they are within an area of urban character. The rigid urban-rural dichotomy is replaced here by a transitional zone.

In Switzerland, 6.8 million inhabitants live in an area of urban character (84% of the resident population in Switzerland). Some cantons have a high share of the population in this spatial type; e.g. Basel-Stadt, Geneva, Zug and Zurich. The population share of some other cantons, such as the canton of Obwalden, is very low (G3). The canton of Appenzell-Innerrhoden has no area of urban character whatsoever.

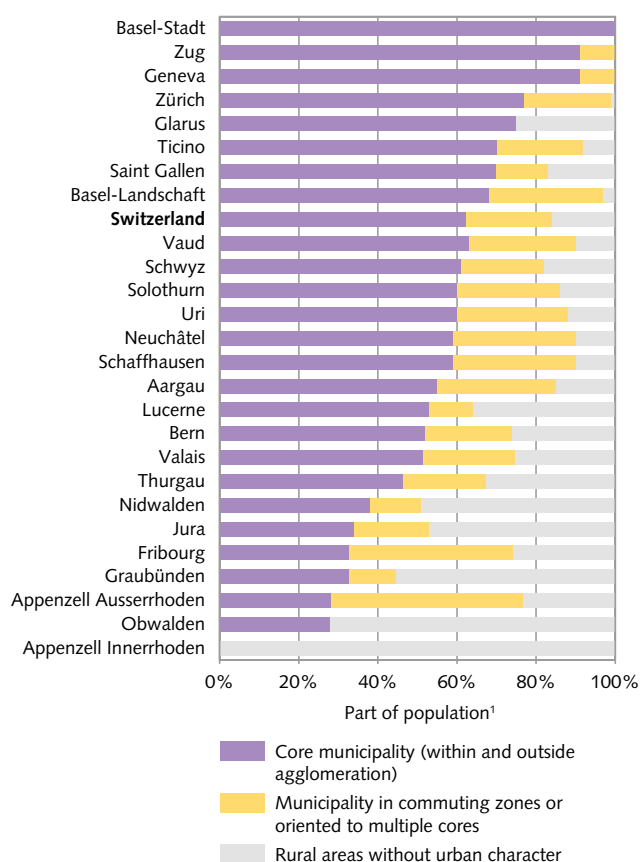
## Changes to the 2000 definition

The earlier definition of the agglomerations and isolated towns and cities from the year 2000 was made on a basic interpretation similar to the one described here, but used other data sets, criteria and thresholds. Furthermore, it was comprised of only three categories (agglomeration core city, other agglomeration municipality and isolated town). The differences between the 2000 definition and that of 2012 are based on population and job trends but also on an adaptation of the methodology. Comparisons are, therefore, only legitimate to a limited extent, and are most feasible at agglomeration level.

In comparison with the 2000 definition, the 2012 version has one agglomeration less. Four agglomerations of the 2000 definition have lost their status (Burgdorf, Schwyz, Stans, St. Moritz) but four others have gained this status: Altdorf, Glarus, Martigny and the cross-border agglomeration Bad

## Population by types of area and cantons

G 3



<sup>1</sup> Permanent resident population 2012

Source: FSO – STATPOP

© FSO, Neuchâtel 2014

Säckingen (DE) – Stein. Moreover, the Wetzikon-Pfäffikon agglomeration has been integrated into the Zurich agglomeration.

The agglomeration core city municipalities take up more room than the core cities of the 2000 definition. According to the 2000 definition there were 63 core cities (one to two per agglomeration). With the new definition there are 430 core municipalities (on average nine per agglomeration). The agglomerations have expanded; today, 1099 from a total of 2352 Swiss municipalities belong to an agglomeration – 218 more than in the year 2000. This difference is not only the result of the process of urbanisation but also due to change of the method.

A total of 330 municipalities have been added to the agglomeration. Conversely, 112 municipalities have now left the 2000 agglomeration perimeter. 60 municipalities were made municipalities oriented to multiple cores, 19 became core municipalities outside of agglomerations (including Burgdorf, Schwyz, Stans and St. Moritz)

## T1 Spatial classification

|   | Municipality category           |  |   |   |  |
|---|---------------------------------|--|---|---|--|
|   | Agglomeration core municipality | Municipality in agglomeration commuting zone | Municipality oriented to multiple cores | Core municipality outside agglomeration | Rural municipality without urban character |
| <b>Spatial classification</b>   |                                 |  |   |   |  |
| Agglomeration   | X                               | X  |   |   |  |
| Core (within and outside of agglomerations)   | X                               |  |   | X                                       |  |
| Municipalities within commuting zones and municipalities oriented to multiple cores |                                 | X  | X                                       |   |  |
| Area with urban character   | X                               | X  | X                                       | X                                       |  |
| Rural area without urban character  |                                 |  |   |   | X  |

Source: FSO

© FSO, Neuchâtel 2014

and 33 municipalities (1% of the resident population in Switzerland) left the area with urban character (including municipalities surrounding St. Moritz). Several municipalities changed to another agglomeration.

Outside of the agglomerations, 290 hitherto rural municipalities changed their status to municipalities oriented to multiple cores. 34 hitherto rural municipalities became core municipalities outside of agglomerations; e.g. Porrentruy, Sarnen, Murten, Payerne and Döttingen-Böttstein.

### New definition of statistical cities and towns

The previous definition of a statistical city or town was based on a municipality with 10,000 inhabitants or more. 10,000 inhabitants could easily live in a newly-created municipality arising from a merger, but spread over four small residential areas, with no dominant centre. For this reason, the number of inhabitants is no longer enough in order to characterise a municipality as a city or town. Municipalities that within the area of their municipality fulfil the same criteria as cores (density and number of inhabitants – incl. equivalents in overnight stays – and jobs in one connected area) are therefore described as a “statistical city or town”.

In 2012, with the new definition, 162 statistical cities or towns were identified on the basis of the criteria of density. 47% of the population lived in these municipalities where 64% of the jobs were found. In comparison, according to the earlier definition, there were 119 municipalities with more than 10,000 inhabitants (according to the 2000 population census). They were then described as cities or towns (“Städte” in German, “villes” in French).

### Application

Spatial classifications such as the urbanised area are mainly used in order to compare urban key data by various categories of municipality. Election analyses are also often made with the help of such spatial types. With the updated classification current urbanisation can be assessed both in space and time. Municipality categories can also be used for administrative and political orientation.

### Updates due to mergers and outlook

Municipalities that are affected by a merger or mutation will have to be reclassified in the future. In such cases, the FSO will decide which municipalities belong to the urban area. For this purpose it will use the data used in the definition from 2012. The result will be as if the municipality had already merged in 2012.

The built environment and its infrastructure change over time. Therefore the FSO considers it reasonable to assess approximately every ten years which municipalities belong to the urbanised area and where necessary to make corrections.

**Definition of the categories of areas with urban character**

**Agglomerations** are groupings of municipalities which together have more than 20,000 inhabitants (equivalent overnight stays taken into account). Agglomerations can also cross national borders.

An agglomeration consists in general of an **agglomeration core** and an **agglomeration commuting zone**. Each agglomeration core consists of a connected zone (**core zone**) of grid cells measuring 300 x 300 m, which have a population density of at least 500 inhabitants (incl. equivalent overnight stays) plus jobs (abbreviation IJO) per km<sup>2</sup>.

A core zone must also have an absolute volume of at least 15,000 IJO. Furthermore each core zone has a high-density centre with more than 2500 IJO per km<sup>2</sup> and a total of at least 5000 IJO. When more than 50% of a municipality's IJO is located in a core zone, the municipality is described as an **agglomeration core municipality**. Together the individual municipalities of a core zone constitute the core of the agglomeration.

A distinction is made between primary and secondary agglomeration cores (satellites). **Secondary cores** have the same characteristics as **primary cores** but are functionally linked to another, larger core (primary core) due to commuting ties. The share of commuters must be at least 26.67%. Primary and secondary cores are within the same agglomeration. Furthermore, cores which have a comparable number of inhabitants and jobs whose boundaries touch, are grouped into a single agglomeration core. The **core city** of an agglomeration is the core municipality which shows the highest value for IJO.

All municipalities that are functionally linked to a core belong to the **agglomeration commuting zone**. A municipality is considered to belong to an agglomeration commuting zone if more than a third of the employed persons living there work in one of the core municipalities.

A **municipality that is oriented to multiple cores** is one where more than a third of employed persons (counted in the place of residence) work in core municipalities of at least

two different agglomerations. Thereby the flow of commuters in the core municipalities of each single agglomeration must be at least a fifteenth of all employed persons. Municipalities oriented to multiple cores are outside of agglomerations.

Individual or bordering municipalities which fulfil the criteria for a core but not the minimum size for an agglomeration, are also found outside of agglomerations. If a threshold of 12,000 IJO in the core zone as well as a minimum of 14,000 is exceeded within the total area of the municipalities concerned, they are considered to be **core municipalities outside of an agglomeration**.

A detailed description of the definitions can be found in the explanatory report here (available only in German and French language):

[www.statistik.admin.ch](http://www.statistik.admin.ch) → Regional → Statistische Grundlagen → Raumgliederungen

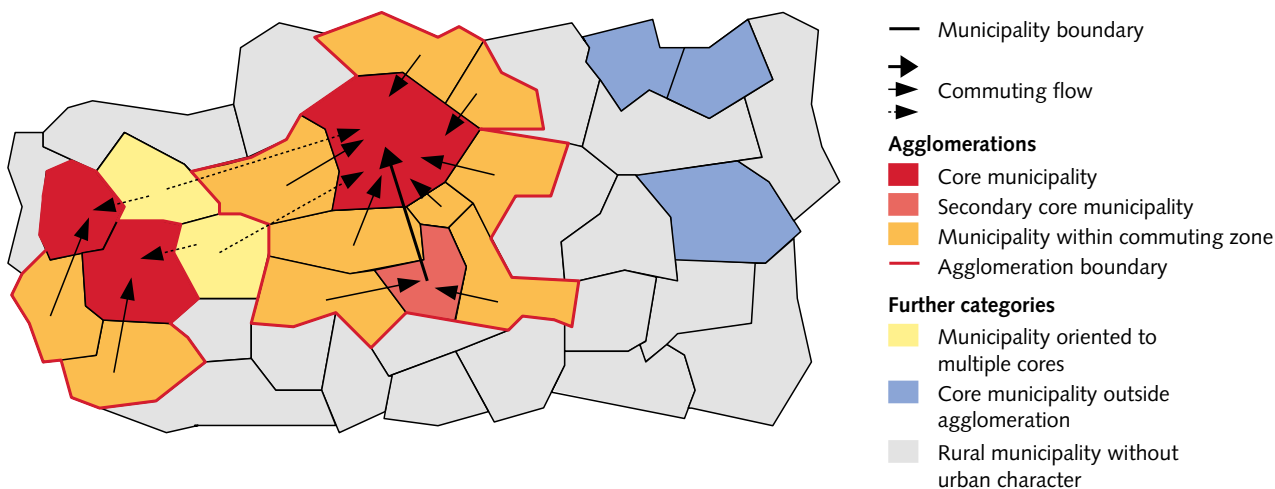
The allocation of individual municipalities to the spatial categories can be also consulted there.

**Data used**

For the Swiss communes the definitions are based (with area situation as of 01.01.2014) on the following data:

| Criteria        | Source   |
|-----------------|--|
| Population      | FSO Population and household statistics (STATPOP) 2012 |
| Employment      | FSO Structural business statistics (STATENT) 2011      |
| Overnight stays | FSO Accommodation statistics (HESTA) 2010/2012         |
| Commuter flows  | FSO, STATPOP and STATENT 2011 (linked)                 |

**Diagram 3: Categories of municipalities with urban character**



Source: FSO

© FSO, Neuchâtel 2014