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## Abstract

### **Urban sprawl in Switzerland – unstoppable? Quantitative analysis 1935 to 2002, current trends, and their implications for regional planning.**

Switzerland is suffering from urban sprawl to an alarming extent today. The degree of urban sprawl in the country has increased by 155 % between 1935 and 2002, and doubled between 1951 and 2002 alone. Urban sprawl has also increased greatly in all cantons and districts considered separately since 1935. Urban sprawl has been increasingly advancing from the Swiss Lowlands into the valleys of the Alps, and has also spread tremendously in the southern part of Ticino and in Lower Valais. Only the western parts of the Jura and some areas of the Alps have been spared, with little to no sprawl.

So far methods and data have been lacking to document urban sprawl quantitatively, so as to be able to compare urban sprawl in different regions. Merely regarding the size of urban areas is not sufficient as a measure of the degree of urban sprawl. Rather, the spatial distribution (spread or dispersion) of the urban areas and the density of inhabitants and workplaces need to be considered as well. To this end, four new measures have been developed: *AD*-weighted urban sprawl (*AD*-gewichtete Zersiedelung) (*Z*), Urban Permeation of landscapes (*UP*), Dispersion (*DIS*) and Utilization Density (*Ausnützungsdichte*) (*AD*). The degree of urban sprawl (*Z*) is represented quantitatively as a combination of the three measures *UP*, *DIS* and *AD*.

The four new measures were applied to Switzerland for the time period 1935 to 2002 and for the scenarios for 2050.

The rates of increase in urban sprawl decreased in the period 1980 to 2002 in comparison with the period 1960 to 1980. However, this does not mean the problem has disappeared. The six scenarios for 2050 demonstrate that urban sprawl will continue to increase greatly in the future if no serious countermeasures are adopted. There are signs, though, that it would still be possible today to reduce the pace of the increase in urban sprawl if effective measures are implemented soon.

The current trends in land uptake clearly contradict the principle of sustainability. The scenarios demonstrate patently that there is an urgent need for action if the current trends are to be stopped or slowed down. To this end, 11 measures were derived from the scenarios. Several of these measures have already been the subject of discussion for a while, but they have not so far been implemented effectively. Their application is even more urgently required now. The scenarios show that these measures are suitable for slowing down the dangerous trends and for promoting more desirable trends. Based on the four new metrics of urban sprawl and the data presented in this book, region-specific objectives, critical levels, limits, and orientation values should be introduced and used to monitor performance on. The data about the development of urban sprawl should also be used as an indicator for environmental reporting and regional monitoring.

Keywords: urban sprawl, Switzerland, time series, landscape, scenarios, measures, landscape protection, landscape fragmentation, dispersion, regional planning, critical levels



# Zersiedelung der Schweiz – unaufhaltsam?

Quantitative Analyse 1935 bis 2002 und Folgerungen  
für die Raumplanung

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