



## Leveraging Geospatial Data for Statistical Time Series: The Case of Road Length Statistics

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Statistical offices prepare representative results not only about the state, but also about the development of the population, the economy and the environment. To fulfill this task, geodata is increasingly used as a source. The availability of high-quality, digitized, homogeneous geodata with multiple time stamps has significantly improved the possibilities. A key challenge is to ensure and, if necessary, adapt the quality and compatibility of geodata for secondary use in statistical production, which often has to be planned in the long term.

A good example of this is the Swiss statistics on the length of roads, which is also used as a distribution key for the revenue from the mineral oil tax (7.6% of federal revenue in 2022) and the distance-related heavy vehicle fee to the cantons. Until 1984, these statistics were based on surveys of municipalities and were not updated again until 2020. Since 2020 they are calculated on the basis of the topographic landscape model of Switzerland. This geodataset is generated by digital mapping based on aerial images and was originally created for the production of topographic maps. A major challenge in implementing the secondary use of the data for road length statistics was to distinguish the actual change in road length from other changes such as new additions due to improved image sources, geometric changes or attribute adjustments. Long-term cooperation between national statistical and mapping agencies was essential in identifying and solving such challenges to enable this secondary use.

