

Does public transportation encourage suburban sprawl?

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The Zurich public transportation authority wants to improve access to downtown Zurich for those living in the suburbs. There will be a variety of impacts on the urban landscape.

If city dwellers could get downtown quickly, would more of them opt to move out to the suburbs? In other words, does rapid transit encourage [suburbanization](#)? This is the question the Federal Office of Transport commissioned EPFL's Transportation Center to answer, by way of the Zurich case. The verdict was a nuanced "Yes, but..." In the specific case of Zurich, the urban spread will only have a marginal impact on the canton. On the other hand, neighboring cantons, where zoning laws are less restrictive, could bear the brunt of the consequences.

The Zurich public transit authority has plans for eventually dividing the cantonal RER network into two concentric zones. This project, called S-Bahn 2G, will serve all the stations of the external zone and, in the internal zone, provide continuous train service to and from the Zurich central station. This will result in considerably shorter travel times between the outer suburbs and the city center.

Recent studies show that when [public transport](#) conditions are altered (schedules, distance, time and cost), the result is a measurable change in usage and in choice of transport modality. An extensive rail service offer, for example, encourages people to leave their cars at home in favor of taking the train, and daily commutes get longer, both distance and time-wise. By improving accessibility to areas far from the city center, the project will very likely lead to these kinds of behaviors, say the researchers.

Redistributing growth

It is also likely that the project will lead to an increase in urbanization, but in a more indirect manner. When transport capacity is already well developed, improving accessibility via public transport has less impact on where people choose to live. In the case of Zurich, there is an extensive road network in addition to the S-Bahn, and thus the majority of the region already has good accessibility.

The financial factor must also be taken into account: accessibility increases land values, and this will force some people to go farther afield to find housing they can afford.

Under the direction of professor Vincent Kaufmann, scientists in EPFL's CEAT (Urban and Regional Planning Community) tested these hypotheses by conducting simulations on two concentric zones in 2030. The six models studied all gave similar results: the population of the

canton of Zurich (not including the city) increased from 1.149 million to 1.162 million, a change of about 1%, a very modest consequence for the canton. The change will be more in the way growth is distributed, rather than a structural change in the landscape, say the researchers.

There are two reasons for this. First, zoning is strongly constrained in the canton of Zurich by a cantonal development plan that controls where and when growth can occur in building zones. Second, although public transport encourages suburbanization, it also tends to lead to denser development in the vicinity of train stations. And finally, it's most likely that the surrounding cantons, which have a larger supply of more extensive and less expensive building zones, will end up absorbing the urban sprawl, according to the study, which was coordinated by EPFL's Transportation Center.

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