

Abstract

The dissertation deals with the long-term impacts of new road infrastructure in Czechia put into operation between 2005 and 2015. The object of the research is to find a link between the development of key socio-economic indicators in a given region and how substantially the road network has developed in that region. The key geographical level is the municipality. To quantify the change in the development of road infrastructure, a traffic exposure indicator is defined that determines for each municipality to what extent it has been affected by the new road infrastructure.

The research combines elements of statistical analysis and qualitative research and aims to systematically map the changes that the new road infrastructure brings at the municipality level, in areas that are not necessarily linked to transport alone, such as health, safety, economic activity, but also the physical form of the street space and the networking of local communities. We can therefore talk about assessing the spill-over effects of new transport infrastructure (effects that are spilling-over from transport to other areas).

The traffic exposure indicator developed at the level of each municipality combines the change in traffic accessibility (i.e., changes in travel time to development centers) and the change in traffic congestion (changes in traffic volume directly passing through the municipality). It is used to develop a typology that identifies which areas have experienced the greatest changes associated with the creation of new transport infrastructure over the years assessed.

In the following part of the empirical research, we then focus on the search for links between the developed typology and changes at the level of spill-over effects. The results show a relatively strong association between a change in traffic exposure of a community and a positive change in air quality or accident rates. Positive impacts on employment were observed, but also that regions where there has been significant development of new road infrastructure are aging faster. For the assessment of economic activity of individuals and businesses, there was a fairly significant regional variation, which supports the idea that the motorway is not a universal tool to develop a region, but rather that to some extent it reinforces a trend that is already set in the area. Therefore, it can be argued that the resulting impact of new infrastructure is not “black or white”, i.e. either clearly positive (generative) or clearly negative (draining), in a similar way as already discussed e.g. by Rietveld and Nijkaamp (1992). Qualitative research at the level of specific municipalities then provides insight on how successfully different municipalities have been able to exploit the effect of a high-capacity transport infrastructure that displaces traffic from the built-up area and thus allows the municipality to seek new uses for the street space.