Hof, a rural district with declining population, was chosen as a study case to evaluate accessibility in rural areas. Catchment areas of public transport stations were computed by both foot and bike through ArcGIS. Based on densities of residential areas, the percentage of people within reachability to bus and train stations was determined. By bike, 99% of residents could reach public transport stations; meanwhile only 75% could walk to stations, which doesn’t meet the required standard. Through visualized catchment areas it is possible to spot deprivation zones. Likewise, accessibility to basic amenities, namely education, healthcare, and retail was measured. The goal was to experiment to what extent it would be possible to replace motorized mobility by walking and cycling. Results varied between different categories. Ultimately, the majority of facilities were found to be accessible by bike within the defined time intervals. That was not the case by foot however, with more than half the residents lacking access in some cases. In brief, outcome showed, discarding motorized mobility is not a convenient option.

Node-place model was employed to study population decline effect on relation between transport supply and demand in future. In two municipalities in Hof, number of residents within catchment areas of bus stations and number of bus connections were collected and visualized in graphs. The graphs showed that if on the longer term transport timetable offers remained unchanged, most stations will be considered as unsustained node. Instead of cutting off a portion of conventional bus connections for the sake of lowering costs, it is recommended to promote demand-controlled services with smaller vehicles to fill in the gaps created in the timetable. In the event of that, the implementation of a very common demand-controlled service, namely Anruf-Sammel-Taxi in Hof District was overviewed. By comparing catchment areas with and without AST, it was noticed that it increased the service by 18% with residents of small remote communities now having access. Node-place model was also applied in this case to visualize the positions of two stations combining AST and conventional bus in the graph with and without AST connections. Result showed that the two stations have the highest node value.