The aim of diploma thesis is to compare methods of accessibility analysis in regions. The result of the analysis must cover only the region itself and not to overlap the neighbouring regions. This condition must be valid for every single region in the multi region system. The first part of the thesis deals with the methods which make the analysis possible. There are described their main characteristics and their advantages and disadvantages. The core part of the thesis consists of the detailed description of the functions and the approaches in the models and scripts, which were based on the methods identified in the former part. The methods are evaluated by the broad use of the models and scripts with various data samples. For every method is found an applicable use. The results are basis for the further inquires and questions eventually leading to the better understanding and the enhancement of the current approaches in that matters.