Abstract

This thesis deals with evaluation of time accessibility by individual car transport. Due to government regulations the time to access the cardiology ambulant care has to be 60 minutes. The first part of thesis pursues on graph theory, especially in context of network analysis and also accessibility and its technical aspect. Second part deals with data editing and solves average speeds on Czech roads, which is based on professional literature and on own research and testing.

In a practical part, there is a described process of creating the Network Dataset and creation of Service Area. Output of these tools is set of maps highlighting regions of Czechia, which have lack of access to cardiology ambulant care. There were also highlighted regions, which are threatened by future lack of access to cardiology ambulant care, when doctor who are above 65 years old, will end their work activities.

Discussion is focused of relevancy of results and its usability. In conclusion the results are summarized.

**Key words:**
Network analysis, accessibility, health care, GIS, road network, average speed