

The competitiveness of public transport on example of the Pardubice Region

Abstract

This diploma thesis is devoted to the competitiveness of public transport in the municipalities of the Pardubice Region. Competitiveness is understood mainly in terms of the price difference between travel time and cost of public and individual car transport, and also in terms of the real demand in the municipalities, thus the share of commuting by public transport. Other parameters of mode choice, that is understood as the main indicator of competitiveness, is the number of public transport lines and automobilization. The main objective of this work is to determine how public transportation depends on the other transport characteristics of municipalities. To select significant variables, multiple linear regression analysis was used. After that, geographically weighted regression was applied in order to explain the share of commuting from municipalities. Most data originate in public databases (The Register of vehicles of Department of Transport, population census, digital geographic databases ArcČR and CEDA) and web portals (OREDO, IDOS), part of the data was obtained within questionnaire survey in selected municipalities. An expected negative relationship between the degree of automobilization and the number of public transport lines was confirmed. Significant variables explaining the share of commuting by public transport are automobilization and the difference in travel time. According to the models and subsequent questionnaire, only long-distance passenger rail transport is competitive with individual car transport. Dominance of the significant factors, automobilization and difference in travel time, in terms of mode choice was confirmed through questionnaire survey. The major cause of insufficient use of public transport is according to respondents unsatisfactory linkup of public transport lines. Despite the personal and social aspects of mode choice, economic and technical factors are considered by respondents to be more important. Because of topicality of the issue, more research in this area is demanded, particularly in terms of economic, sociological and psychological aspects of the transport behavior of population in other regions of Czechia.

Keywords: mode choice, public transport, individual car transport, commuting to work, time and cost competitiveness, geographically weighted regression, the Pardubice Region