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Title: Assessment of spatial diversity of landscape along the highway and expressways in Wielkopolska

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Summary:

Roads due to the large spatial character significantly affect the landscape, causing numerous and most often irreversible changes. The aim of this study was to assess the landscape diversity along the highway and expressways in the Wielkopolska, as well as to analyse the relationship between landscape metrics and visual attractiveness of the landscape.

The existing sections of the S5, S8, S10 and S11 expressways as well as the A2 motorway in the Wielkopolska were selected for the research. The research was carried out in a two-sided buffer in five width variants. Based on the buffer analysis and landscape metrics, the spatial diversity of the landscape along the studied roads was characterized. The on-line questionnaire was used to study the attractiveness of the visual landscape, which also allowed to analyse socio-demographic factors affecting landscape perception. The last stage of investigations was to analyse the relationships between landscape metrics and the visual attractiveness of the landscape.

The obtained results have indicated spatial diversity of the landscape structure along the research routes, which has depended on the type of land cover and has been related to the road class. Among socio-demographic factors, only age, education and business/profession have affected the perception of the landscape. Landscape metrics have not been a good tool for assessing the visual qualities of landscapes along roads, therefore an original indicator for assessing the visual attractiveness of the landscape (VALI) has been proposed, taking into account the diverse of land cover types.

Keywords: roads, landscape metrics, landscape perception, Visual Attractiveness of Landscape Index (VALI)

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