

ABSTRACT

The dissertation concerns the topic of calming traffic in the entry zones to small towns located along provincial roads with built up chicanes. Based on the study of the literature, it has been shown that the discussed issue is broadly developed and elaborated in detail in terms of the selection of geometrical parameters of the individual elements of the harassment, but does not fully exhaust the subject of the impact of the development of the entrance area surroundings and the traffic organization applied, as determinants affecting the perception of drivers, and thus the reduction of speed and at the same time the effectiveness of harassment. The dissertation showed that with the same condition of the pavement, similar geometric parameters of the built chicanes and a similar volume of hourly traffic volume, very different speed reductions in the entry zones when driving along the chicanes can be obtained. This became the premise for undertaking the topic of the dissertation on the identification of determinants of the effectiveness of the solutions applied in the entry zones of provincial roads to the localities.

Taking the above into account, the dissertation introduced the aggregated parameter z , i.e. the independent variable, which corresponds to the sum of the determinants of the spatial development of the road surroundings jointly affecting the perception of drivers passing through the entry zone, causing the expected speed reduction. This is the result of analyses in which the entry zones were characterized in accordance with three separate criteria. In each of the criteria, the determinants constituting the features of a given entry zone were assessed, which could potentially affect the perception of drivers and the speed reduction. On the basis of field studies and the adopted research methodology, the dependence of the speed reduction and the speed change index on the aggregated z parameter adopted in the dissertation was analysed. Additionally, the impact of the harassment on road noise and traffic safety was analysed.

The positive results of the regression analyses of the above-mentioned dependencies confirmed the thesis in the doctoral dissertation. The obtained results of the analyses allowed for the formulation of conclusions, that the speed reduction and the expected value of the entry speed to the village depend mainly on the synergy of the combined impact of road conditions, traffic organization and the development of the entrance area surroundings, and not only from the geometric parameters of the chicane used.

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