Median-type adjustment factor for road capacity calculation

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Abstrak

A median is required for a two-way road to separate the opposite traffic and prevent head-on collisions. In road capacity calculation, the median factor contributes in terms of its existence regardless of the difference in median types. Road capacity is determined by a number of geometric factors such as road types, width of carriageway, shoulder/curb characteristics, and the presence/absence of medians, etc. The contributions of these factors are represented by the coefficients in the capacity calculations. Despite the different types of medians, the Indonesian Highway Capacity Manual (IHCM) does not adopt different coefficients to accommodate the effects in the capacity. The aim of this study is to obtain an adjustment factor for road capacity calculation based on median types. The method of this study adopts video recordings of real traffic moving along three different types of medians: raised medians, fenced medians, and line medians. As it is assumed that the effects of different median types are expressed in the vehicles' safety distances from medians, the capacity of the road will also vary by types of medians. The adjustment coefficients for roads with raised medians, fenced medians, and line medians obtained are: 0.79, 0.78, and 0.81, respectively. The results of this study confirm that in addition to the presence of the medians, the types should essentially be considered in calculating the road capacity. The result of this study will contribute to the enrichment of the road capacity calculation in the IHCM.