

Non-motorised level of service: addressing challenges in pedestrian and bicycle level of service

Abstract:

Motorised vehicle conditions have been evaluated by many researchers. In contrast, there are very limited studies on vulnerable and non-motorised users, such as cyclists and pedestrians, specifically children, the elderly and the disabled. Thus, this paper reviews prominent studies on street evaluations to identify effective indicators for non-motorised trips. The street condition for these trips is measured by the bicycle level of service (BLOS) and the pedestrian level of service (PLOS). In previous studies, different methods have been introduced for PLOS and BLOS. However, these methods have several major shortcomings. First, pedestrians and cyclists are assumed to be users who can share street facilities with motorised vehicles and thus are considered equivalent to cars. Second, the majority of these methods are complicated and time-consuming, and it is difficult to connect them to a design process. Furthermore, these methods support only a limited number of walking and cycling facilities; therefore, they may not be valid for a wide range of pedestrians and cyclists with a diverse variety of abilities and ages. This study discusses the challenges in the BLOS and PLOS research and attempts to introduce new objectives for further studies in this field to eliminate the aforementioned shortcomings.