Development of methodology to estimate trip attraction and parking demand for urban office developments: Case Study- Colombo

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Abstract

Urban commercial developments are an integral part of the urban land use and this affects the trip generation and attraction pattern in the city. More importantly these developments increase the demand for parking, which by law should be provided within the development. Lack of adequate parking facilities will impact the road network as it will lead to on-street parking and additional vehicular circulation to and from public car parking areas. Furthermore, provision of parking within the premises results in an increase in the cost to the developer which can escalate the prices of the property. Moreover, due to lack of local norms to indicate accurate traffic generation factors for different types of developments such as office complexes, business establishments etc., it is hard to forecast accurate future traffic figures that will generate due to the proposed new developments. Therefore, regulations need to ensure adequate number of parking are stipulated based on the type of facility.

Parking regulations for office building type developments used for the city of Colombo is based on gross floor area of the building, which may not necessarily represent the parking needs of the building depending on the type of operation which takes place. Therefore, the existing parking regulations for these types of development need to be revised in order to assess the optimal parking requirement for different types of office buildings. The study develops a methodology to estimate trip attraction patterns and parking demand for urban office developments. For that research aims to evaluate the trip attraction patterns for different types of office developments and it investigates the effectiveness of current parking regulations and calculation methods in Sri Lanka. Similarly, it identifies new criteria to evaluate parking provisions for the new office developments. Finally based on study results parking demand and trip attraction rate will be assessed.

Keywords: Parking demand, Trip attraction

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