Minimum Parking Requirements for Hotel Developments in Port Moresby, Papua New Guinea

By : Wilson Wariaka
Student Identity Number : 3106 206 705
Supervisors : Ir. Hera Widyastuti, M.T.
Budi Rahardjo, S.T., M.T.

Abstract

The increase in population as well as various land-uses in the city of Port Moresby, Papua New Guinea are consequently influencing the demands for accessing goods and services therein which in turn generate both vehicular and personal trips resulting in traffic related problems. Spillovers of traffic on adjacent streets near land uses are indications of parking spaces within the land-uses been exhausted or there are no parking space at all. Therefore, it is essential to assess each land use and the arrangement of its parking to ensure that adequate parking facilities are provided. Allocation of minimum parking space is an essential part of efficient land-use. Hotel industry is a fast growing land-use where it has high potential of attracting mostly vehicular trips. It is important to assess the current parking demand and the existing parking spaces in the hotels.

In this study, parking surveys for five major (luxurious) hotels were done between 11:30 a.m. and 13:30 p.m. for eight weekdays. The parking demand analyses have indicated that all sample hotels have peak accumulation during the lunch hour on any typical normal day. The highest parking demands (load) in all hotels are below 85% and the average is 67% from which it can be inferred that the hotels have excess parking spaces. The existing parking demand in each hotel is assumed to be linearly related to hotel services and facilities. Therefore a set of predictors and a dependent variable was established which were analyzed using multiple linear regression. Three models were developed to suit three arbitrary hotel categories based on standard room tariff. The minimum parking requirement estimates using the models deviate slightly from the recommended 0.5 space per guest room.

Key Words: minimum parking requirement, hotels, Port Moresby, peak parking demand, vehicle accumulation, multiple linear regressions models.