

Evaluating the performance of traffic flow in four intersections and two roundabouts in petaling jaya and Kuala Lumpur using Sidra 4.0 software

Abstract

Delays represent one of the indirect costs in terms of frustration, loss of time and discomfort to the drivers. On the other hand, it represents a direct cost in terms of fuel consumption/wastage on road networks during idleness and inactivity. Extreme delay at signalized intersections reflects the incompetence in the signal timing because of consecutive signalized intersections on the particular site. The traffic parameters performance is not a feasible method or practice. Furthermore, one of the significant ways to improve the performance of the network is by coordinating traffic signal in intersections. This study was done to highlight the ability of improving the level of service (LOS) of four intersections; two of them with four legs and two with three legs as well as two roundabouts in Kuala Lumpur and Petaling Jaya using SIDRA software version 4.0. In addition, the study aims to compare the results between each peak hour in terms of percentage of change in the variables and the delay. Moreover, consideration of geometric delay should be taken into account when comparing delays in peak hours in the morning and the evening peak hours. The results obtained show that the morning period is better than the evening period for the value of delay, queue, journey time and speed that was obtained from practical measuring in the study area. The average reduction of delay in the study area before and after optimization of SIDRA software is from 3489 Sec to 1571 Sec in the morning period as well as 5093 Sec to 1663 Sec in the evening period. The percentage of reduction was about 45% and 33% -respectively. © 2015 Penerbit UTM Press. All rights reserved.