

ABSTRACT

Tagaytay City, known as a tourist destination, is experiencing traffic congestion particularly on weekdays because of large volume of vehicles entering the city. Congestion usually occurs at Tagaytay City rotonda located near Olivarez Plaza which connects two major and two minor roads namely Emilio Aguinaldo Highway, Tagaytay-Nasugbu Road, Tagaytay-Talisay Road and Tagaytay-Calamba Road. Due to conflicts, large delay and queues are produced resulting to slow traffic flow. The study aims to determine the efficiency of roundabout in terms of traffic delay, length of queue, and level of service through volume-capacity ratio and degree of congestion and to compare it with the signalized and unsignalized intersection using the same traffic data gathered by the researchers and improve the traffic flow through the application in the said intersection. Present condition shows that reserved capacity of Tagaytay City rotonda yields to 549.73 and -160.27 during AM and PM peak hours which results in short traffic delay in the morning but become congested during the afternoon where large volume of vehicles are expected to enter the intersection.