

TRIBHUVAN UNIVERSITY INSTITUTE OF ENGINEERING PULCHOWK CAMPUS

Abstract Submission On:

Gap Acceptance Behavior of Minor Road Vehicles at Unsignalised Intersection: A Case study of Pulchowk T-Intersection

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DECEMBER, 2022

Abstract

Gap acceptance is an important component in microscopic traffic characteristic, which is used in the determination of capacity and delay of the individual movements of vehicles at an uncontrolled intersection. This concept is based on defining the extend drivers will be able to utilize a gap of a particular duration. Most of the studies related to critical gap estimation have been carried out in developed countries where traffic is homogeneous and rules of priorities as well as lane disciplines are followed. However, in developing countries like Nepal, where heterogeneous traffic conditions exist, priority rules are less honored which consequently creates conflicts on intersections. In this paper, an attempt is to be made to analyze gap acceptance behavior of minor road drivers at the selected study location, which is the unsignalised T-intersection of Pulchowk, Lalitpur. Data was collected for six hours of duration by videography consisting of three hours of duration each for morning and evening time. In the study, straight going flow is to be considered as a major stream and other as a minor stream. In this study, two different types of methodologies are used to determine critical gap assuming independence between the arrival time of minor stream vehicles and the ones of the major stream vehicles. The aggressive behavior of minor stream vehicles trying to cross into the major stream is also taken into consideration for development of a logistic regression model for the probability of acceptance of gap. The gap acceptance behavior of minor road drivers is compared in terms of gender, time of clearance, aggressive nature, and the gap or lag provided by developing a logistic regression model.