

Study of Delays to Evaluate the Sustainability over Time of Solutions for Urban Intersections

F. Medina¹, A. Burga¹, A. Bravo²

¹ Research Student. Faculty of Civil Engineering, UPC, Lima, Perú
u201420103@upc.edu.pe; u201519041@upc.edu.pe

² Full Professor. Faculty of Civil Engineering, UPC, Lima, Perú
aldo.bravo@upc.pe

Abstract. - A way to evaluate if the solutions for urban intersections are sustainable in time, is about calculating the delays for a future traffic and the present study estimates the delay variation that are present in time to get a more accurate analysis when it is pretended to use in future traffic. The vehicular delay is one of the most important parameters that is used to evaluate the performance of traffic light intersections, for this reason, professionals of transport use as traffic optimization judgment the decrease of delays This article presents an approach to evaluate the variation of delays through the time for urban intersections for which this investigation analyses the delays in one intersection for different stages. This project begins with a model of the intersection of study helped by the software Synchro 10. Then, the model will be applied for many stages where the vehicular volume will be increased depending the vehicular growth. Finally, it is proved that due to the estimated delays for each stage, it will be possible to estimate their own variations that is based on the trend of percentages variation curve on time delays. In brief, the methodology could be applied in different urban intersections and stages where it is pretended to propose solutions that are sustainable over the time.

Keywords: Future traffic; Delays; Traffic light intersection; Vehicular congestion.