

Aung Kyaw Han 2011: Improvement of the Major Intersections in Yangon.
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With the increase in demand on the current roadway systems, intersections in Yangon nowadays are found not fulfilling the standard requirements of the design period. When the performance of existing intersections reaches an unacceptable level, typically, the treatment is to transform the existing intersections into channelized and roundabout intersections to enhance both the capacity and level of service. This paper describes the key methodology in the improvement design plan of three major intersections (four and five-legged) in Yangon. Then it proposes the best improvement design which will minimize traffic congestion, vehicle delay and maximize level of service for each existing intersection. In this research, the set of variables that affect control delay at signalized and unsignalized intersections were firstly determined. Then, channelized intersections with traffic signal control designs were proposed for existing intersections using AASHTO (2001) “A Policy on Geometric Design of Highways and Streets” and Highway Capacity Manual (2000) guidelines and the results were computed. In addition, proposals for the roundabout intersection designs were also made using the gap acceptance approach by Federal Highway Administration (2000) “Roundabouts: An informational guide” and the outcomes were determined. Finally, comparison between before and after improvement using both plans was made according to the level of service (LOS) and average control delay. As a result, the appropriate design for each intersection was evaluated. From the results of this paper, it was found that roundabout design was the most suitable upgrade plan for all three existing major intersections.

Student's signature

Thesis Advisor's signature