DELAYS AT UNSIGNALISED JUNCTION

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Dedicated To Traffic Engineering Relevant Parties...

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ABSTRACT

Traffic delay is an important measure of quality of a journey. The longer the delay, the lower the quality of a journey. Delay is one of the aspects considered of a road facility such as intersection. This project concerns with the delay experienced by the drivers on minor rod at priority T-junctions. The main objective of the study is to evaluate the applicability of the current method of estimating delay to the analysis of the performance of priority junctions. Data for analysis of traffic delays was collected at six priority T-junctions in various parts of sub-urban areas. The result of the analysis show that current method of estimating delay cannot applicable to the evaluation of performance for local priority junction. However, more data are required to validate the results of the study.

ABSTRAK

Kelengahan traffik adalah penting untuk mengukur qualiti perjalanan. Semakin panjang kelengahan, semakin rendahnya qualiti perjalanan. Kelengahan adalah satu aspek yang mempertimbangkan analisa keupayaan untuk kemudahan jalanraya seperti persimpangan. Projek ini mengambil kira kelengahan yang dialami oleh pemandu daripada jalan minor di Persimpangan Keutamaan-T. Objektif utama kajian ini adalah untuk menaksir keterterapan kaedah menganggar kelengahan yang sediada dengan analisa keupayaan Persimpangan Keutamaan-T. Data untuk analisa kelengahan traffik telah dikumpul di enam Persimpangan Keutamaan-T di pelbagai kawasan pinggir bandar. Keputusan daripada analisa menunjukkan bahawa kaedah menganggar kelengahan yang sediada tidak dapat digunakan untuk menaksir keupayaan persimpangan keutamaan tempatan. Akan tetapi, lebih banyak data adalah diperlukan untuk mengesahkan kebenaran keputusan kajian ini.

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LIST OF SYMBOLS AND ABBREVIATIONS

i.e.	that is / that are
LOS	Level of Service
q	Traffic Flow
q_{Major}	Major Road Traffic Flow
q_T	Total Traffic Flow Rate
q_R	Flow Rate for Right Turning
q_L	Flow Rate for Left Turning
q_{NS}	Near Side Flow Rate
q_{FS}	Far Side Flow Rate
q_{Motor}	Motorcycle Flow
veh	Vehicle
h	Hour
min	Minutes
sec	Seconds
WD	Weekday
SAT	Saturday
SUN	Sunday
PCU	Passenger Car Unit
Vs.	Versus
VPH	Vehicle per Hour
PCPH	Passenger Car per Hour
R_T	Minor Road Right Turning
L_T	Minor Road Left Turning
M_{RT}	Major Road Right Turning

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CHAPTER I

INTRODUCTION

1.1 Introduction

The construction of junction is to allow the road users to change their direction of journey. The ability of the vehicles from minor road cross and merging with the vehicles from major road at a junction depends on types of junction control and the conditions of traffic flow on major road. Types of junction control include signalised control, stop-controlled and roundabout. This study focuses on the delay at unsignalised T-junction for local traffic conditions. The actual delays and theoretical delays are evaluated.

1.2 Problem of Statement

A stop-signed traffic control system is usually used at junction accommodating relatively low volume of traffic. This performance of traffic operation at this type of junction is expected to be influenced by geometry layout at

the junction and the distribution of the traffic flow. At an unsginalized junction, the road users are exposed to high risk of accident during diverging, merging or crossing. The parameters that influence delay at stop-signed junction are capacity of the junction, traffic demand, activity surrounding the junction area and driver characteristics. Current method of analysis is based on the American Highway Capacity Manual. Therefore, there is need to assess the delays at stop controlled junctions for local traffic condition to evaluate the applicability of the existing Highway Capacity Manual to the analysis priority junctions. Besides that, the levels of service for stop-signed junction are estimated through this study. Therefore, solution for solve the delays problem can be proposed based on the level of service at junctions in order to reduce the delay problem to the traffic especially minor road traffic.

1.3 Aim and Objectives of Study

The aim of this study is to assess the delays at unsignalised junctions. The objectives are:

- To assess the actual delays at local unsignalised junctions;
- To compare the actual delays and theoretical delays; and
- To evaluate the implication of actual and theoretical delays.

1.4 Scope of Study

This study focuses on the delay experience by the minor road traffic at unsignalised junctions. Types of delay considered are the stop delay, total delay and average delay.

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