

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**THE SIMULATION ANALYSIS OF HEAVY TRAFFIC
BY USING M/M/1 AND M/D/1 QUEUEING SYSTEM**

P23S18

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**Report submitted in partial fulfilment of the requirement
for the degree of
Bachelor of Science (Hons.) Computational Mathematics
Faculty of Computer and Mathematical Sciences**

DECEMBER 2018

ACKNOWLEDGEMENTS

IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

Firstly, we are grateful to Allah S.W.T for giving us the strength to complete this project successfully.

We would like to express my gratitude to lecturers who already taught in formal or informal especially our supervisor Mr. Mohd Najir Bin Tokachil who gives a lot of guidance in proposal for subject Mathematic Modelling (MAT 530) and this technical report MSP 660. We would also thanks to our lecturer in MAT 530 Dr. Khairul Anwar Bin Rasmani that also give support and knowledge on our proposal. Furthermore, not to forget our MSP 660 lecturer Dr. Mat Salim that gives additional knowledge about technical report and our examiner Madam Nor Aishah Binti Mad Noh who gives knowledge and advice in order to have improvement in our technical report.

Many thanks to our family and friends, which give a lot of support including financial and motivational support to finish this technical report from the beginning until complete our project.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	i
TABLE OF CONTENTS.....	ii
Abstract.....	iv
1. Introduction.....	1
1.1 Problem Statement.....	4
1.2 Objectives.....	4
1.3 Significance of The Project.....	4
1.4 Scope of The Project.....	5
2. Literature Review.....	6
2.1 Traffic and Impatient People.....	6
2.2 Queueing Analysis.....	7
2.3 Probabilities, Variance and Mean.....	7
2.4 Poisson Process.....	8
2.5 Comparison between M/M/1 and M/D/1 Queueing Model.....	8
2.6 Assumption Approximation for Arrival Process in Real System.....	9
2.7 Queueing Theory.....	10
2.8 Queueing Disciplined and Approach.....	11
2.9 Steady State.....	11
2.10 Challenging Situation in M/M/1 Models.....	12
3. Background Theory.....	14
3.1 Description of Queueing Equation.....	14
3.2 Description of M/M/1 Queueing Model.....	14
3.3 Description of M/D/1 Queueing Model.....	15
3.4 Derivation of M/M/1 and M/D/1 Queueing Model.....	15
3.4.1 Derivation of utilization or traffic intensity.....	15
3.4.2 Derivation of M/M/1 Queueing model.....	16
3.4.2.1 Stochastic models of queues.....	16
3.4.2.2 Little's Theorem.....	17
4. Methodology and Implementation.....	23
4.1. Methodology.....	23
4.2. Implementations.....	30
4.3. Calculation of Data traffic 1 by using M/M/1 Queueing Model.....	31
4.4. Calculation of Data traffic 1 by using M/D/1 Queueing Model.....	33
5. Results And Discussion.....	36
5.1. Determine the probability queueing time of having n, average no of vehicle, average queue length, average staying time, and average waiting time.....	36
5.2. Comparing the queueing time of M/M/1 and M/D/1.....	42
6. Conclusion.....	43
7. References.....	44

LIST OF FIGURES

Figure 2.1: The queueing theorem.....	10
Figure 3.1: Utilization.....	15
Figure 3.2: Queueing Model.....	16
Figure 4.1 : Step of Methodology by using M/M/1 and M/D/1 queueing system.....	23
Figure 4.2: Layout of Traffic Light System at Jalan Rasah.....	25
Figure 5.1: The result of average number of vehicle and average of queue length by comparing between M/M/1 and M/D/1 queueing system 700 m at Jalan Rasah.....	40
Figure 5.2: The result of average staying time and average waiting time by comparing M/M/1 and M/D/1 queueing system for 700 m at Jalan Rasah.....	40
Figure 5.3: The result of average number of vehicle and average queue length by comparing between M/M/1 and M/D/1 queueing system 300 m at Jalan Rasah.....	41
Figure 5.4: The result of average staying time and average waiting time by comparing M/M/1 and M/D/1 queueing system for 300 m at Jalan Rasah.....	41

LIST OF TABLE

Table 4.1. Description of terms use in queueing model.....	24
Table 4.2. Data collection of traffic Jalan Rasah (700 m)	26
Table 4.3. Data collection of Jalan Rasah (300 m)	27
Table 4.4: Formulation use in queueing model.....	28
Table 5.1. Result Jalan Rasah (700 m), by using M/M/1 Queueing Model.....	36
Table 5.2. Result Jalan Rasah (700 m), by using M/D/1 Queueing Model.....	37
Table 5.3. Result Jalan Rasah (300 m), by using M/M/1 Queueing Model.....	38
Table 5.4. Result Jalan Rasah (300 m), by using M/D/1 Queueing Model.....	39
Table 5.5. Numerical Study at Jalan Rasah (700 m)	40
Table 5.6 Numerical Study at Jalan Rasah (300 m)	41
Table 5.7. Numerical and Actual Study at Traffic A.....	42
Table 5.8. Numerical and Actual Study at Traffic B	42

Abstract

The increases in number of vehicle might be a reason that traffic congestion occurred especially during peak hours. Thus to overcome this problem, project related to queueing system for heavy traffic is used which focus on queueing time of average output rate, probability that are no users of vehicle, average number of vehicle, average queue length, average staying time and average waiting time. In this project, the M/M/1 and M/D/1 queueing system were applied with data collection of Jalan Rasah, Seremban were selected as our scope of this project. The data was collected based on waiting time of vehicle on traffic during peak hours. The result that obtained in this project is waiting time of M/D/1 is better than M/M/1 queueing system whereas the M/D/1 result is close to average actual of waiting time. Therefore, M/D/1 queueing model is suitable to use for this traffic system. The finding of this project might be useful information to Traffic Service Centre to take action in reducing traffic congestion. In the future, the size of the vehicles need to be considered so that an accurate result can be obtained for both queueing systems.