

CHAPTER 1

INTRODUCTION

1.1 Background

Kuantan is the Pahang capital state where it is located at the East Coast of peninsular Malaysia. Based on the national census conducted in year 2010, Kuantan constituted a total population of 461,906 persons with 2.57% growth from 358,261 persons in year 2000. It has a total area of 2960km² where it is also one of Pahang's hub that is open for trade, commerce, and tourism. It is a vibrant city where they have the second biggest port in Malaysia the Kuantan Port and is exactly one of main income generator for the city. In the recent year of 2009, Malaysia had demarcated Kuantan as an East Coast Economic Region (SEZ) (Special Economic Zone). It is aim to boost the economy and tourism growth by implementing the lower tax rate and different trade and business laws to simulate the growth of that particulate area.

The two seasons which are hot season and rainy season clearly depicted the picture of Kuantan. The hot season is caused where the south-west wind blocked by the Titiwangsa Mountain and rainy season is due to the north-east winds. The rainy season usually occur during October to January where it could cause very large rainfall and eventually caused flood when consecutive raining day for a week. The economic stimulus package have bring along the development of the surrounding area of Kuantan. The area such as Taman Tas, where located approximately 10 km from the Kuantan town had shown high population growth too due to their strategic location in between the roadway connecting Gambang to Kuantan town. It is built by the Majlis Perbandaran Kuantan to promote the economic growth since 1970-an. It is surrounded by residential area, Taman Tas Ria and Pandan Damai. The constant development along with the population growth have brought the stable economic earn. Although Taman Tas is small but it is perfectly formed in variety of form. It constitutes leisure place (Tunas Manja) and education hub (Akademi Memandu Kuantan) to maintain the stable

population growth. The population growth in Taman Tas brought the economic benefits because it serves lots of people's need to pursuit higher quality of life. Hence, high demand of development is needed for Taman Tas.

However, rapid development of city had brought along the side effect especially to the transportation system. The recent constructed commercial area at Taman Tas have brought the convenience to the resident and also attracted the new traffic trip to that area. Those new trips had eventually caused the traffic jam especially peak hours. Below Figure 1.1 shows the vicinity area and prominent building within the study area between Pandan Damai and Taman Tas Ria. Both of these are already a developed housing area. Figure 1.1 showed the partition of each Taman with different colour where Taman Tas, Taman Tas Ria and Taman Pandan Damai are red, blue and yellow respectively.

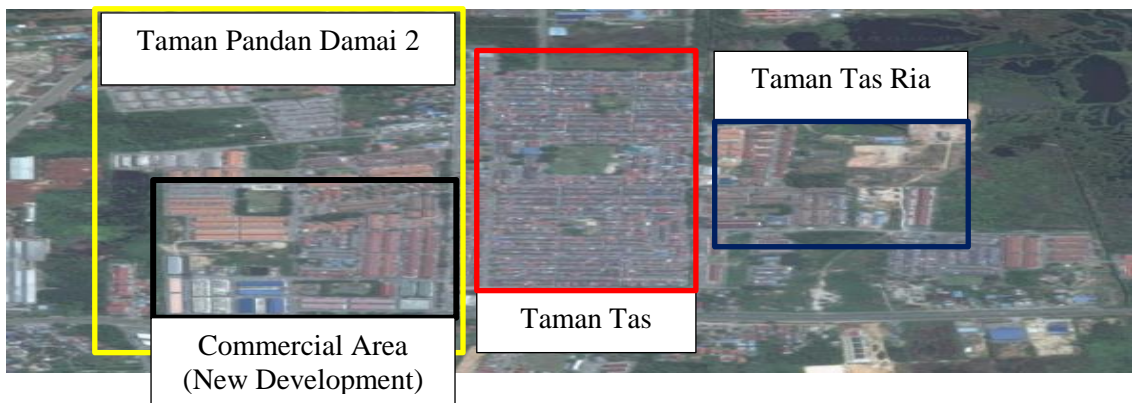


Figure 1.1: Surrounding Area of Study Site

The residents and traffic volume were remained at constant growth. Beside, since these areas were near to each other, the traffic volume was almost the same. The Jalan Gambang beside Taman Tas retrieved from google was showed as in below Figure 1.2.

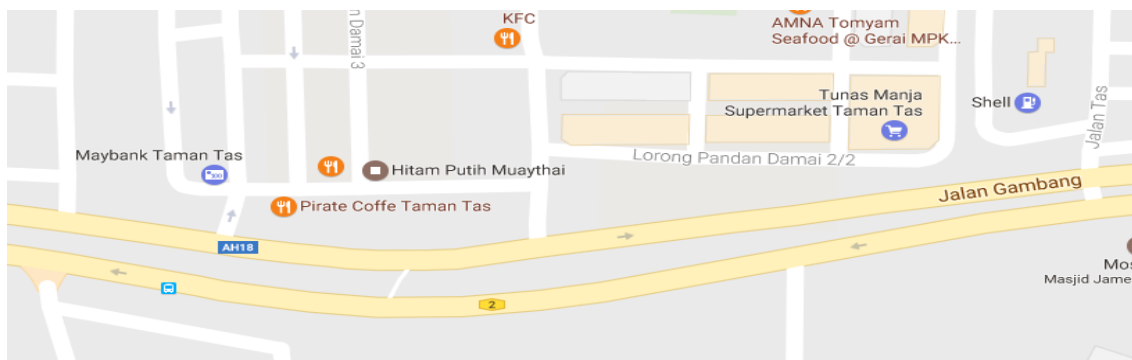


Figure 1.2: Jalan Gambang beside the Study Area

As showed in Figure 1.2, this is the critical location (Jalan Gambang) where the congestion frequently happened. There were a total of three entries and exits to access Taman Tas area. It is believed that the resulted trips from the newly developed commercial area with the existing traffic act concurrently to the Jalan Gambang - Kuantan had caused the serious traffic congestion.

In this research, the traffic situation was investigated by conducting the questionnaires survey followed by traffic operational analysis using Malaysia Highway Capacity Manual. Finally, the newly suggested level of service of this road section was forecasted using Aimsun TSS software. Chapter 2 is a brief review on literature on the traffic congestion. Chapter 3 provides the methodology to conduct this study. Chapter 4 presents the data analysis and simulate result. Chapter 5 is focus on the result extracted from chapter 4, the conclusion of this study and the recommendation for further study.

1.2 Problem Statement

The generated trip from new development will eventually create the congestion to the existing road network. The poor traffic management for example provided green light, insufficient of parking lot due to incorrect attracted trip forecasting, and the illegal park beside the main road is affecting the limited lane width. The manoeuvre of car parking is threatening the limited lane width and eventually the disturb traffic flow and create congestion. The congested road caused the vehicles to follow the front vehicle closer so the time taken for emergency break is less. The bad weather also caused a worse situation and created the road crash and safety issue to the road user. It is revealed that the inadequate mitigation measure on generated traffic from new development is considered one of the major causes of congestion-related problems in cities (Hokao & Mohamed, 1999). Thus to solve the congestion problem, the “Supply and Demand” concept was introduced (Rahane & Saharka, 2014). It is revealed that traffic congestion is able to be reduced by either increasing the road capacity (supply) or by reducing the traffic (demand). In order to amend the numerous car crash related to safety issue of everyone. Reduction of demand included parking restriction, road space rationing, incentives to use public transport and introduction of e-education, e-shopping and home based working options will reduce the number of people traveling. Vice versa, increasing the supply included increase the total green time or road capacity in term of number of way, creating new route and improvement of traffic management are