Travel to Work Patterns of Low-income People in Urban Area

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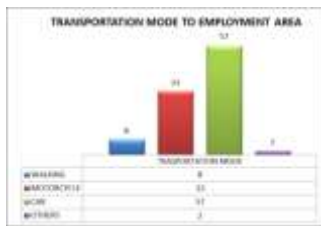[b]Centre of Studies for Town and Regional Planning, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA Malaysia, Shah Alam, Selangor,Malaysia.

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Abstract

Intensifying numbers of travel demand draws problem to sustainable transport system because of poor facilities, services, frequency and punctuality due to lack of decent planning and design. Increasing numbers of the vehicle ownership has developed the road networks insufficient that leads to congestions. The issues of travel characteristics chosen by the people to their employment area that will show the travel pattern is the core point in this research. The research methodology consist of the interview sessions to the authorise personals and from the distribution of questionnaire survey forms to the resident of low-cost housing areas in Melaka Tengah District in Malaysia. Then data collected were processed using Social Package Statistical Software (SPSS) to show analytical result. This process will displayed the respondent's travel characteristics and determine their preference in transportation mode to the employment area. Analytical result showed that the impacts from more than half of the respondents choose to travel by car as transportation mode to working area will come to consequences of traffic condition which lead to congested road. These findings will further help bringing in improvement to existing routes and public transportation systems so it will be optimally utilised for a better daily commute.

Keywords: Transportation, Travel Pattern, Employment Area, Low-Cost Housing, SPSS

Abstrak

Permintaan yang semakin tinggi dalam pengangkutan mendatangkan masalah kepada sistem pengangkutan disebabkan oleh kekurangan pada kemudahan-kemudahan,perkhidmatan,kekerapan dan ketepatan kerana terdapatnya kelemahan pada perancangan dan reka bentuk sedia ada. Bilangan pemilikan kenderaan persendirian yang semakin meningkat telah mengakibatkan rangkaian jalan raya mengalami kesesakan lalu lintas. Isu dalam pemilihan ciri- ciri perjalanan yang dipilih oleh orang ramai yang akan menunjukan pola perjalanan adalah teras dalam kajian penyelidikan ini. Methodologi penyelidikan adalah terdiri daripada sesi temuramah dan agihan borang-borang kajian soal selidik penduduk di kawasan perumahan kos rendah di bahagian Melaka Tengah di Melaka, Malaysia. Data-data yang dikumpul kemudiannya diproses menggunakan Social Package Statistical Software (SPSS) untuk menunjukan keputusan analisis. Proses ini akan mempamerkan ciri-ciri perjalanan responden dan menunjukkan pilihan mod pengangkutan ke kawasan tempat kerja. Keputusan analisis menunjukkan lebih separuh daripada responden memilih untuk menggunakan kenderaan sendiri ke tempat kerja. Ini secara tidak langsung memberi impak kepada keadaan lalu lintas yang akan menyebabkan kesesakan jalan raya. Hasil daripada kajian ini dapat membantu dan membaiki keadaan lalu lintas sedia ada dan penggunaan sistem pengangkutan awam dalam memudahkan perjalanan harian.

Kata kunci: Pengangkutan, Pola Perjalanan, Kawasan Tempat Kerja, Perumahan Kos Rendah, SPSS

■1.0 INTRODUCTION

Travel demand due to the urbanisation increase the number of private vehicle ownership each year[1].   People from the countryside moving to the big city to get proper living needs such as education and working opportunities[2]. This phenomenon contribute to several challenges that need to be confront such as overcrowding, constant traffic congestion and greater strain on services[3]. The traffic congestion on the road is highly occurs during the peak hour or the rush hour that normally happens twice a day which is once in the morning and once evening. This is because of the standardized working hours as the employee so to work in the morning and coming home in the evening. There is also a third peak hours which occurs during the afternoon. This

phenomenon happens because of the lunch break and the end of the morning school sessions. The heavy traffic during these hours usually occurs at the school area and food centers[4].

Considering this trend, the main issue is the traffic congestion that leads to the delay of arrival time to workplace. People tends to choose to travel using their own vehicle as using the public transportation give a lots of hassle as the routes and numbers of public transportation are both limited and unreliable[5]. According to[6], public transport system in Malaysia is below the standard of other developed countries where the modal share of public transport users in 2010 showed on 17 % compared to 60 % in Singapore and 89% in Hong Kong. Public transportation problems issues will affect people satisfaction on requirements of urban mobility cause people to give up using it. The perception of poor management and lack of service quality often occur as this problem does not handled properly. As an initiative to improve the standard of Malaysia's public transport, Government Transformation Programme (GTP) have been introduce by Malaysian Government on 2010. This programme focused on improving the quality of public transportation in term of services, punctuality, and number of coverage, comfortability and safer environment of commuting[7]. Besides that, the programme

■2.0 STUDY AREA

Central Malacca is one of the State of Malacca district in Malaysia. Situated at 02°12′ N, 102°15′ E .This area is the busiest

in the Malacca State as this is where the tourisms area located.

Figure 1 Central Malacca,Malacca,Malaysia

■3.0 METHODOLOGY

The research methodology comprise of the interview sessions to the authorise personals and from the distribution of questionnaire survey forms as a statistical analysis which are distributed to the resident of low-cost housing areas in Melaka Tengah District. The statistical analysis will display the criteria from the selected parameter for each respondent from their resident area to the employment area. This will further help in the recommendation of several options for a better commuting or improvement to the existing routes and public transportation.

managed to reduce the numbers of traffic congestion as the purpose to allure people to used public transport for healthier lifestyles as it can reduce the number of car on the roads also allowed people to walk more steps in their daily movement[8].

This research will accentuate the use of Social Package Statistical Software (SPSS) as a tool in determining the travel characteristic and pattern to the employment area. The research methodology consist of the interview sessions to the authorize personals and from the distribution of questionnaire survey forms as a quantitative analysis which are distributed to the resident of low-cost housing areas in Melaka Tengah District. The spatial analysis is to investigate the accessibility pattern to the employment area from their resident area will further enhanced the outcome of this research. The combination of this process will display the criteria from the selected parameter for each respondent from their resident area to the workplace area. This will further help in the recommendation of several options for a better commuting or improvement to the existing routes and public transportation.
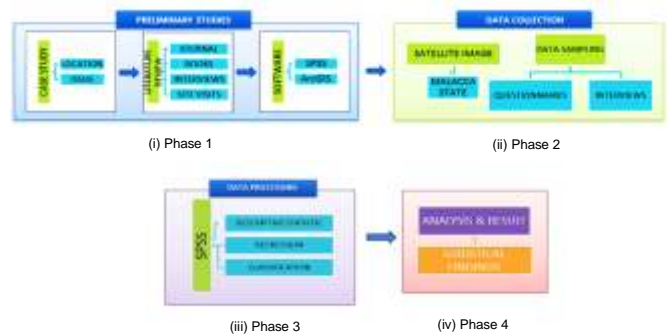
(i) Phase 1   (ii) Phase 2

(iii) Phase 3   (iv) Phase 4

Figure 2 Research Methodology

■4.0 RESULTS AND DISCUSSION

Questionnaire survey was done with distributing the questionnaire to Rumah Pangsa Lereh in Central Malacca. Data collected were processed using SPSS statistical software to show these result:

Statistical analysis result showed on Figure 3 is the location of respondent workplace area based on district in Central Melaka. The highest respondent workplace location is Paya Rumput and Bandar Hilir with 17 percent. This is followed by Ayer Keroh with 9 percent and 7 percent at Kota Laksamana because the location of most government department situated there. Smaller group of respondent work in Klebang and Sungai Udang with 5 percent, then Kesidang, Pantai Kundor, Bukit Baru, Bachang with 4 percent, Ayer Molek with 3 percent, Telok Mas with 2 percent and Duyong with 1 percent. This location is had less employment opportunities because of small numbers of development in this area. The remaining 18 percent of the respondent working outside of Central Malacca.

Figure 3 Respondents Employment Area by District in Central Malacca

Figure 4 showed the respondent transportation mode to the employment area by percentage. It showed that 57 percent of respondents prefer to use car to work, followed with 33 percent use motorcycle. There are 8 percent of the respondent is walking to the employment area because of their employment area are within walking distance while another 8 percent of the respondent choose to use public transportation.
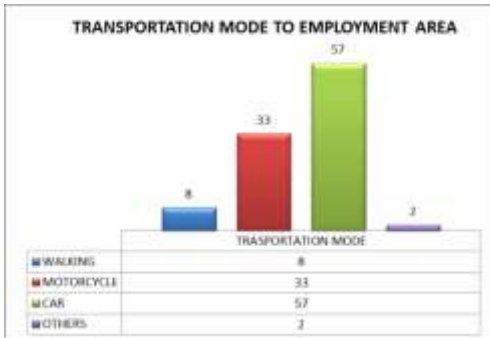

Figure 4 Respondents Transportation Mode to Employment Area

Figure 5 explained about the traffic condition during respondent travelling trips to or from their employment area. There are 46 percent said the traffic is congested and 35 percent of respondent said that the traffic is slightly congested while 19 percent said the traffic is not congested at all. This result showed that more than half of the respondents choose to travel by car to the employment area are one of the factor that causes to congested traffic condition.
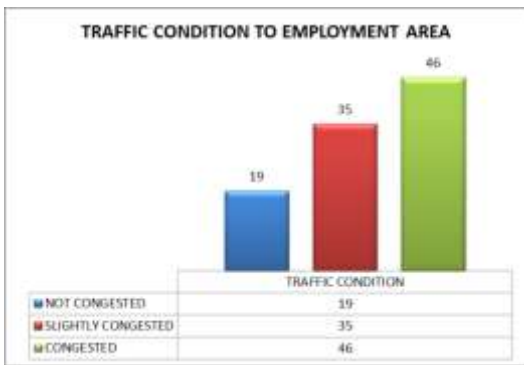

Figure 5 Traffic Condition to Employment Area

Table 1 displayed the traffic condition on the main road of Central Malacca during the peak hours on working day. The first peak hours that showed the slowest road condition are on 7.30 a.m in the morning where the most of the employed rushed to employment area. On 12.30 p.m in the noon are the break hours for employee also affecting the condition of the road traffic. Most of the employee off from work by 5.00 p.m in the evening making some of the road congested during 5.30 p.m in the evening.

Table 1 Traffic Condition on Main Road of Melaka Tengah

(i)   Trafffic Condition : 7.30 a.m

(ii)   Traffic Condition : 12.30 p.m

(iii)   Traffic Condition : 5.30 p.m
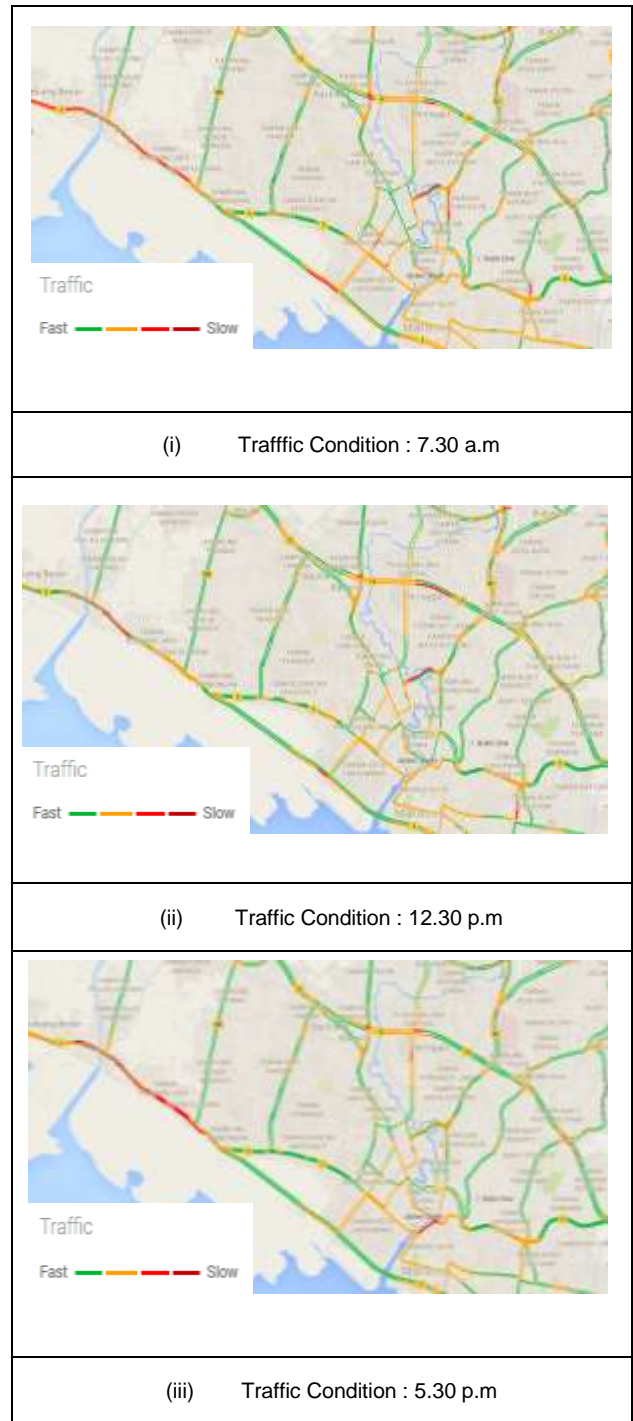
■**5.0 CONCLUSION**

Arrival time at workplace constantly delayed by congested route that will cause tardiness phenomenon. Tardiness at the workplace has become perturbing issue for the companies where stuck in heavy traffic jammed are the most common worker excuses .In this research, statistical based analysis will emphasize the travelling patent behavior and distance parameter to employment area. Data collected from questionnaire survey will be analysis

using Social Package Statistical Software (SPSS) to indicate the respondent's travel characteristics and determine their preference in transportation mode to employment area. It is shown that higher numbers of respondents choose own vehicle as a transportation mode to workplace. This result to the traffic congestion during peak hours especially when they're going to the workplace and back from workplace. These findings will further help bringing in improvement to existing routes and public transportation systems so it will be optimally utilised and people aware that it is better than driving private vehicles. Hence promoting a better health for an outstanding life quality.

Acknowledgement

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