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

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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

1.0 INTRODUCTION

Travel demand due to the urbanisation increase the number of private vehicle ownership each year1. People from the countryside moving to the big city to get proper living needs such as education and working opportunities2. This phenomenon contribute to several challenges that need to be confront such as overcrowding, constant traffic congestion and greater strain on services3. 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.

Considering this trend, the main issue is the traffic congestion
that leads to the delay of arrival time to workplace. People tend 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.
According to, 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. Besides that, the programme
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.

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.

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 tourism's area located.

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.

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 1 Central Malacca, Malacca, Malaysia

Figure 2 Research Methodology

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

<table>
<thead>
<tr>
<th>Traffic Condition</th>
<th>7.30 a.m</th>
<th>12.30 p.m</th>
<th>5.30 p.m</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONGESTED</td>
<td>46</td>
<td>35</td>
<td>19</td>
</tr>
<tr>
<td>SLIGHTLY CONGESTED</td>
<td>35</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>NOT CONGESTED</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

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