

# The Impact of Traffic Congestions on Tourist Behavior: Case study of Chiang Mai, Thailand

Ka Leong, Chong

Centre for Tourism, Hospitality and Culinary Management, Sunway University,  
Bandar Sunway, Petaling Jaya, Malaysia  
danielc@sunway.edu.my

**ABSTRACT:** Traffic congestions in major cities of Thailand is a persistent issue to foreign tourists. 2 major cities, Bangkok and Chiang Mai were perceived the most congested cities in Thailand. However, Chiang Mai was considered the worst due to poor public transportation systems as compared to Bangkok. This research aim to explore the condition and the impacts of traffic congestion on tourist attitude pertaining to travelling within Chiang Mai. Qualitative approach was used in this research. Interviews and site observations were conducted as the form of data collection. ABC Models of Attitudes was used as an approach to assists questionnaire development for interview. While, bottleneck approach which relates to demand exceeding capacity in a punctual location by TRB (2000) was used as the congestion indicator in site observation. Past literatures concerning tourist behaviour and traffic congestion in tourist area were incorporated to triangulate and to support the data gathered. The findings denote that the foreign tourists perceived negatively towards the traffic congestion in Chiang Mai. This perception have led them to prefer destinations that are away from traffic and within walking distance from their accommodations.

**Keyword:** Tourist behavior, Tourism Congestions, Traffic Congestions, Thailand Tourism.

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## INTRODUCTION

Traffic congestions within major cities in Thailand like Bangkok and Chang Mai is widely commented by news, travel websites, travel blogs and travel advisory board around the world. BBC news (2012) ranked Bangkok as one of the top 10 most traffic jam place in the world. In fact, traffic in Chiang Mai, the second largest city of Thailand is considered worst due to poor public transportation system that could not relieve the traffic congestion. The growth of traffic congestion issue critically affects tourists travelling within Chiang Mai (TripAdvisor, 2013; CMCN, 2013; Thaivisa, 2009). According to City News (2012), Chiang Mai experiences smoking traffic congestion approximately 12 hours per day. Citylife (2012) states that the number of vehicles in Chiang Mai rise rapidly which leads to traffic congestion. The traffic congestion usually comes from the extreme delays contributed by congestion which shows no signs of declining (Sperling & Gordon, 2009).

Evidently, tourists' comments gathered from TripAdvisor (2015) has indicated that many travelers were unsatisfied with the traffic condition in Chiang Mai. As such, it was believed that the tourist attitude can be influenced by poor traffic congestion. As traffic congestion fails to estimate the arrival time, it creates perception of uncertainty among the foreign tourists which then negatively influence their attitude towards visiting Chiang Mai (Mogan, 2013). This assumption is also supported by Siri (2009) suggesting that attitude of the foreign tourists can be easily influenced by the poor traffic condition in a destination. Hence, this research aims to explore the impacts of traffic congestion on tourist attitude formation pertaining to travelling within Chiang Mai. This study was centred on evaluating the traffic condition and attitudes of the foreign tourists towards the traffic situation in Chiang Mai. In specific, tourist attitude was broken down into 3 stages of attitude formation: 1) cognitive, 2) affective and 3) behaviour attitudes.

3 research questions pertaining to the research objectives were formulated:

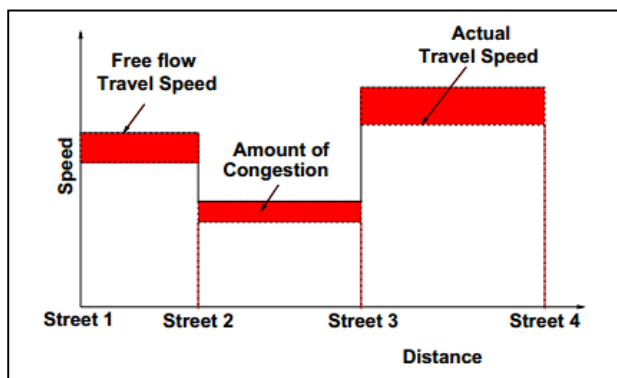
- 1) How does traffic congestions affect tourists' perception towards visiting Chiang Mai?
- 2) How does traffic congestions affect tourists' affection towards visiting Chiang Mai?
- 3) How does traffic congestions affect tourists' behaviour towards visiting Chiang Mai?

## LITERATURE REVIEW

### *Traffic Congestion*

Mathew (2012) states that traffic congestion happens when demand surpasses the transportation system's capacity. From the driver's standpoint, congestion is initiated when the driver is required to reduce the speed of the vehicle due to the slower vehicles in front of the driver. Congestion is observed rising in numerous parts of the globe, from the Western-European nations to North American countries and to fast emergent city regions of Southeast Asia such as Thailand (Schallabock & Petersen, 2008). The transportation system gets influenced as the society, technology and economy develops. Bovy & Salomon (2008) mention that congestion is a double-faced incident. It can be seen as a trait of the network for example, by the duration and number of queues that have aroused in the network or by their length. Likewise, the congestion level can be portrayed by the duration of the network which was influenced by queues. Conversely, congestion is also a characteristic of a trip as it involves several traits that affect the tourist's behaviour. The traits of trip-related comprises whether the trip faces congestion, total of distance of time travelled due to congested circumstances and allocation of delay time to overall trip time. Intolerable congestion is defined as the time travelling or postponement in excess of agreed norm which may differ by form of transport facility, time of the day, travel approach and geographical setting according to Mathew (2012). The solid line in Figure 2.1 signifies the travel pace under free-flow circumstances and the dotted line symbolises the real travel pace. The vehicles will be moving at a slower speed compared to their free flow pace during congestion. The shaded region in between these two lines denotes the total of congestion.

Figure 2: Definition of Congestion



Source: Mathew (2012)

Traffic congestion may happen due to two categories – recurrent congestion and non-recurrent congestion. Recurrent congestion usually happens at the identical place and at the identical time. Non-recurrent congestion is the outcome from incidents such as roadway repairs or accidents. Bovy & Salomon (2008) state that the common justification for congestion is that inadequate road space has been supplied. The analysis is built on a broadly accepted idea that road capacity is a complimentary municipal good that ought to be provided by the authorities, to hold any stage of demand. Nevertheless, not all congestion is the outcome of inadequate supply. Several congestions are not recurrent and they are the consequences of specific impermanent conditions for instance adverse weather situations, accidents and maintenance of roads. Recurrent congestion is triggered by a structural scarce of capacity or equally surplus demand while non-recurring congestion occurs due to minor short of capacity or overload demand.

European Conference of Ministers of Transport (2007) states that congestion has effects on both the pace of travelling and the consistency of travel circumstances. It is the latter that might be the utmost concern to individuals and businessmen. Though congestion might influence travel pace, in some conditions, congestion may both be anticipated and to some extent acknowledged such as in main city areas. These cities have come

to recognize an extent of congestion and persist to get along comparatively well providing that generally, the ease of access is high.

Tanaboriboon (2003) mentions that the rapid growth of economic development in Thailand, together with more wealthy and a living standard of the nation play a part to a better mobility within the city. The development rate of Thailand's economic growth rise rapidly and maybe much rapid compared to the infrastructure growth producing restricted road capacity to overcome with the over growing demands in vehicle travel. Besides the insufficient road capacity that brings traffic disorder in Thailand, other causes for example, incapability to manage traffic demand, inadequate roads usage, inappropriate road networks development and improper road users' understanding have greatly contributed to the traffic congestion.

### *Traffic Congestion in Thailand*

The rise in demand for transportation in Thailand have contributed to the growth of congestion in the city areas. The growth of economy and social development enhance mobility in urban and encourage the use of personal transportation. Yet, transportation road and rail network is restricted and is not constantly exploited in the most favourable approach. There are three main factors that affect the travel demand which resulted in congestion in Thailand: 1) car ownership and dependency, 2) public transport operations, and 3) special events.

The refund tax for first-time car buyer is implemented in Thailand from 1<sup>st</sup> October 2011 to 31<sup>st</sup> December 2012. This plan helps in enhancing the living standard of nations and increasing their domestic purchasing power to generate strength in macroeconomic system as there is a condition where the cars must be manufactured in domestic besides excluding all imported cars (PRD, 2011). Ministry of Finance, Thailand (2011) reports at least 500 thousand low income earners can enjoy the benefits and thus the number of road users is anticipated to sharply increase in within a year. During the year 2010, car production in Thailand has increased 60 percent and 700 thousand car products are sold in the domestic market (PRD, 2011). The increased in the number of vehicles is believed to surpass the development of road capacity. As a result, more cars are actually driving on the limited road capacity which may eventually contribute to traffic congestion. Pomlaktong, *et al.* (2011) argue that there are many traffic rule policies that have been implemented, but the government could not manage the entire geographic area of Thailand and therefore the congestion issue is not well-managed.

Other than that, traffic flow during special events in the vicinity of the vent will be radically different from 'typical' patterns. Special events such as Song Kram festival and Loy Krathong festival are celebrated merrily in Thailand, traffic congestion will occur due to the gathering of the citizens, tourists and the huge amount of vehicles on the road. Severe traffic congestion may then lead to traffic accidents. Chiang Mai is ranked the third worst in traffic in Thailand in the recent New Year celebration in Chiang Mai as a result of the death of 14 people on road in a week time from 27<sup>th</sup> December 2012 to 2<sup>nd</sup> January 2013 while 147 passengers were injured (CMCN, 2013). In average, during peak season, a total of two people died in a day. McGroarty (2010) argue that special events generate recurring traffic congestion on a seasonal basic because of behavioural issues. Road users are sharing the same purpose in travelling and are exposed to suffer in traffic congestion.

Even though that public transportation system may help to improves the traffic congestion in an urban city. Yet, in Thailand, lack of appeal of public transport creates congestion since it drives passengers away from public transport and into personal transportation. Tourists visiting Thailand generally perceived public transportation in Thailand performs poorly, short of network coverage, personal safety and ease and low level of consistency. Moreover, public transportation in Thailand can only operates in dispersed and sprawled city areas with complexity and then only in a restricted space and in some niche markets. Therefore, the function of public transportation in supplying a feasible transport substitute for the entire city area is frequently restricted.

### *Past studies on Traffic Congestions*

Past studies on traffic congestion pertaining to tourism were mainly assessing traffic congestion as an impact to local community. Andereck et al's (2005) study of tourism impact on local community showed that traffic and crowding congestion are perceived as major concerns. Similarly, another research on tourism impact over local

community by Claudia and Dogan (2004) also suggested that traffic congestion will significantly affect local residents' attitude towards tourism. Studies on traffic congestions in relation to tourist behaviour were found limited. One study on how traffic affect the movements of tourist around a destination by Lew and Mckercher (2006) demonstrated that traffic condition leading to the tourist attractions does influence the decision making and behaviour of a tourist. Another relevant study by Shyr et al., (2015) on the impact of new transportation development on tourist behaviour suggested that new transportation alternatives such as train can positively influence tourists' decision to travel.

One specific paper related to traffic congestions in Thailand was carried by Kantawateera et al. (2015) focusing on discovering the tourist transportation problems and to suggest guidelines for developing the tourism industry in Thailand. The finding of the study showed that lack of public transportation and traffic jams are major issues in many tourist destinations in Thailand. Although the city can be reached by air, the current flight options are not enough to meet the needs of passengers; furthermore, the city's rail transportation needs to be developed, and there is limited municipal bus service around the city or between the city and the airport. In addition, a city bus system was proposed to be developed immediately, and a public transportation network that links to tourist attractions need to be addressed. In view of the past researches mentioned, there was no clear study specifically focus on how traffic congestion in Thailand could affect tourist behaviour. There was no clear evidence that past studies attempt to explain how tourists' attitudes can be formed due to traffic congestion and most importantly how these attitudes can influence their travelling options within Thailand.

### *Measuring Tourist Attitudes towards Traffic Congestions*

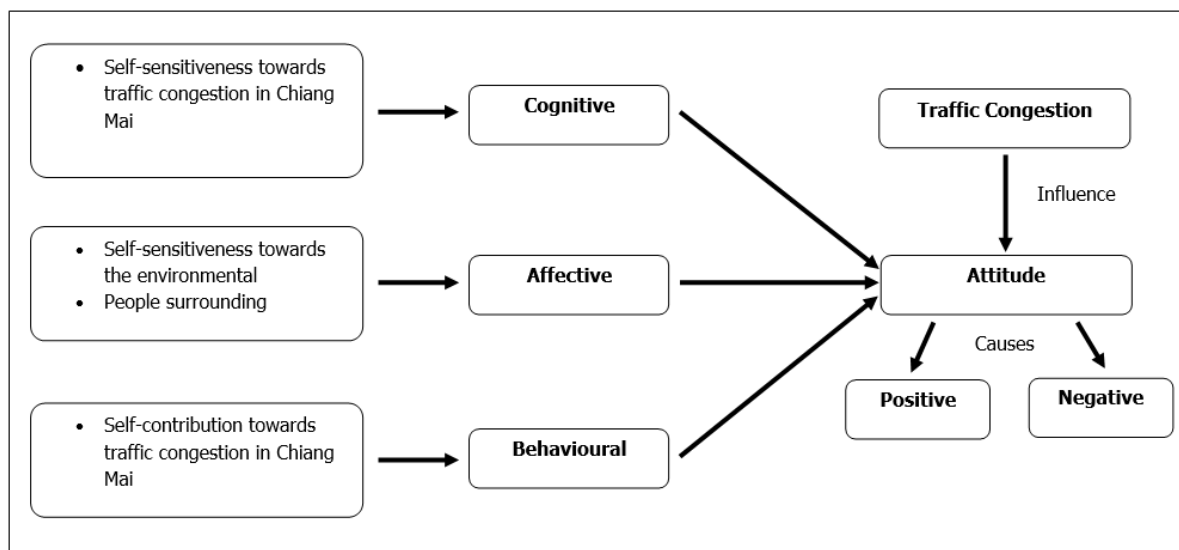
In this research, besides the term 'traffic congestion', the term 'attitude' was used as the main focus of this study as attitude creates a huge dissimilarity in terms of when and where an individual holidaying (Aimkij & Mujtaba, 2010). Attitudes of existing and future tourists can differ based on their knowledge with a location and nation's goods or services, values and wide-ranging promotional tactics. For instance, attitudes to traffic congestion can affect travel attitude both directly and indirectly through location options. Attitude can be assessed in 3 segments: cognitive attitude, affective attitude and behavioural attitude.

Cognitive is the belief segment of an attitude. The cognitive plays a role when someone creates an opinion or perception about another person, object or situation. The opinion may be favourable or unfavourable, positive or negative. Pizam and Mansfeld (2000) mention that cognition relates psychological behaviour that involves information development. For instance, the acceptability of waiting time can be reasonable for the tourists towards traffic congestion if they believe that waiting for half an hour is reasonable, yet some of them think vice versa. Hence, the tourists may evaluate the whole experience in a positive or negative manner.

The affective component is the feeling of an attitude. When someone attaches his or her emotions to the opinion that has been created about anyone, object or situation, this component comes into action. Eagly and Chaiken (2003) suggest that both positive and negative opinions arise from the experiences with the product or service attributes which may contribute to satisfactory or dissatisfactory experiences towards the products or services (Derbaix & Pham, 2001). For instance, if people have positive reactions towards an experience with services attributes, they will be more likely to have positive attitude (satisfaction) and vice versa (Oliver, 2003). This research applies the affective component via gauging the attitude of the tourists by looking into the environmental influences towards the tourists' experiences and their positive or negative attitudes after evaluating the trip. This may include the comparison of the tourist's home country with Chiang Mai as the external environment. Besides that, affective may take place due to the members of the family or friends that may influence tourist attitude when traffic congestion occurs as individuals might be influenced by one another.

For behavioural component of attitude, it is linked to a person's overt action. Havitz and Dimache (2009) state that behavioural is the core concept in explaining the individual's participation in activities and his or her reaction towards the interest in and concern about an issue. Thus, self-involvement of tourists in traffic congestion can be represented as an indicator of behavioural factor. In this research, behavioural attitude shows the action of how tourists react to the issues of traffic congestion in Chiang Mai. Tourists will be able to evaluate their trips with positive or negative attitude after experiencing traffic congestion issue in the city. Tourist behaviour may be associated with the cognitive and affective components of attitude.

Figure 2: Theoretical Framework of the ABC Model of Attitudes towards Traffic Congestion



Adapted from: Eagly & Chaiken (1993).

## METHOD

This study has adopted qualitative approach in data collection and data analysis. This approach is appropriate in search for data which are highly subjected to environmental changes, decision making, and experience (Sahu 2013). Qualitative approach is in line with the research objectives which aim to discover and explain tourists' perception, feeling and intention towards traffic congestion. These data are not numerical in nature and it is mainly referring to behavioral, experience, attitude and decision making which can't be easily accessed through quantitative approach. According to Trochim (2006), using qualitative research method can helps in achieving deep understanding of the issues, thoughts and opinion of the target respondents. Unlike quantitative research methods, Anderson & Taylor (2009) state that quantitative research may forego some related details regarding the human behaviour as it tends to ignore the effects of variables that are not included in the model.

Purposive sampling method was used. Potential respondents' criteria was set to only include 1) foreign tourists who have been visiting Chiang Mai for at least three days; 2) foreign tourists who have experienced traffic congestion in the city itself. Besides that, depth interview was carried out which differs from focus group interview. Depth interview is defined as having interview with an informant in a time while focus group interview means having interview with a group of informants in a time. Hoets (2012) argued that there will be more information gathered when having interview with an informant compared to a focus group. In terms of sampling size, Trochim (2006) recommended that a sample size of no less than 12 are required for a qualitative research which focuses on in-depth understanding and rationale of the topic. Hence, 13 sample respondents were interviewed.

Data and investigator triangulation were used to ensure reliability and validity of the results. Data triangulation involves the use of a variety of data sources in a study. The location of the data collection varies to ensure better coverage and variation of data. Responses were gathered in tourist hotspot areas such as Wat Che Dee Luang, Tha Pae Road and Wa Rorot market in Chiang Mai. Moreover, to ensure data reliability, research members were assigned to observe the traffic condition at the tourist hotspot areas in three particular period: afternoon, evening and night. Research members were asked to re-confirm the findings by depart at the same time and same place on the following days. In term of investigators triangulation, the data collected was discussed within the group members of four to avoid personal view of only one or two members. The data is interpreted by the team with various views and understanding.

## FINDINGS

The findings were presented in two sections: section 1 illustrate the findings from interview and section 2 shows the results from the site observations. Interview findings were categorized in accordance to the 3 dimensions of ABC Model of Attitude: 1) Affective, 2) Behavioral, and 3) Cognitive. While, observation findings were presented to demonstrate the condition of traffic congestion in Chiang Mai.

Table 1: Cognitive Responses: What do you think of the traffic condition in Chiang Mai?

Respondents	Responses	Descriptive coding
1	“Traffic congestion in Chiang Mai is not reasonable. It discourages me a lot. Especially the behavior of the road users. The drivers do not concern about the safety of the other road users including the tourists.’	Irresponsible drivers
2	“The street vendors are the ones that contribute the most to the traffic congestion especially when they setting up the stalls besides the road users.	Irresponsible vendors
3	“I think that the heavy traffic flow in Chiang Mai is due to the poor road management and the presence of hawkers stalls.	Poor town planning
4	“The level of traffic congestion in Chiang Mai is less severe compared to Bangkok”.	Comparatively better
5	“The traffic congestion in Chiang Mai is not reasonable as compared to my home country and even London.”	Not reasonable
6	“Not as bad as my home country, Malaysia. However, traffic congestion here can be due to the poor traffic management especially during peak hours when the night market starts operating.”	Poor traffic control
7	“The traffic congestion here is fairly acceptable compared to the situation in Bangkok and Malaysia.”	Comparatively better
8	“I think Chiang Mai has an inefficient road planning. Traffic in Singapore is more congested as compared to Chiang Mai.”	Poor town planning, Comparatively better
9	“Compared to my country China, the traffic congestion here is better. I think the traffic congestion here is caused by the increase of tourists’ arrival.”	Comparatively better, tourists congestion
10	“Traffic congestion in Bangkok is worst compared to Chiang Mai. I hardly encounter any traffic congestion in my country Germany. The traffic flow in Germany is more systematic.”	Comparatively better
11	“I think the hawkers and the citizens are the one who cause the traffic congestion. The locals are not alarm with the road safety.”	Irresponsible vendors and drivers
12	“Traffic congestion in Chiang Mai is ok for me because Malaysia is also facing the same issue. I think the traffic congestion here is due to simply parking of public transports on the roadsides.”	Comparatively acceptable, Irresponsible drivers
13	“The traffic congestion here is not reasonable. I think the increased number of ‘tuk tuk’ in the tourist hotspot areas is one of the factors contributing to the traffic jam.	Not reasonable, Poor traffic control

Based on the above findings, it indicates that most of the respondents’ perceived traffic condition in Chiang Mai as not acceptable and interestingly some thinks that it is comparatively acceptable. Perceived factors causing the traffic congestions here in Chiang Mai are irresponsible drivers, poor town planning, poor traffic control, and irresponsible street vendors.

Table 2: Affective Responses: How do you feel about the traffic condition in Chiang Mai?

Respondents	Responses	Descriptive coding
1	"I feel really disturbed. Traffic congestion here is more severe than my hometown. I came from a small city and traffic is always not a problem"	Annoying, comparatively unacceptable
2	"I feel bad for my traveling partners because I am the one who recommended them to come here".	Embarrassing
3	"Nothing much, is common in Thailand. Is still better than Bangkok"	Common
4	"I can't communicate with the drivers. So I am not confident with the public transportations here".	No confidence
5	"The night markets here should be regulated to reduce traffic congestions."	Lack of regulations
6	"I feel unsafe especially crossing the road and walking around areas which are congested with people and cars."	Perceived unsafe
7	"I feel frustrated with the local vendors and hawkers. I feel that they are the one who cause the traffic congestion here.	Frustrated by street vendors
8	"I don't feel safe walking here and even taking the public transport because I don't even trust the driving skills of the driver here."	Perceived unsafe, No confidence
9	"My holiday mood can be easily affected by the traffic as well as the people congestions here."	Annoying
10	"I am alright! I still enjoy my holiday"	Satisfactory
11	"It's ok! I will not that easily affected by these problems."	Satisfactory
12	"Nothing much, as long as everyone is happy. Because we travel as a group"	Satisfactory
13	"I feel stressed because of the noise and air pollution caused by the traffic jam."	Stressed, Noise, air pollution.

Findings showed that most of the respondents' feel annoyed, embarrassed and stressed due to the traffic condition in Chiang Mai. Other than that, the feeling of unsafe, frustration and lack of confidence towards the road users and public transports were also highlighted. On the other hand, some also suggested that it was acceptable.

Table 3: Behavioural Responses: How would you response to the traffic condition in Chiang Mai?

Respondents	Responses	Descriptive coding
1	"I rather walk than taking the public transports that are available in the city".	Reject public transport
2	"I have decided not to rent a car in Chiang Mai. Long distance traveling within Chiang Mai is a waste of energy and money."	No long distance traveling
3	"I don't mind to walk if the destination is in a short distance trip.	No long distance traveling
4	"I prefer to walk around the city. Traffic congestion here is de-motivating me from visiting more places.	travel within city
5	"I prefer to walk around instead of using the public transports to avoid the traffic hassle in the city. If I want to travel long distance, I will try to travel very early in the morning to prevent from encountering the traffic jam."	No long distance traveling, Travel timely
6	"I will opt for public transport when traveling around the city because I feel that walking around the city is not safe. But I will not take public transports during peak hours."	Avoid walking, Travel timely

Table 3: Behavioural Responses: How would you response to the traffic condition in Chiang Mai?(Continued)

Respondents	Responses	Descriptive coding
7	“I would rather walk if it is a short distance trip in order to avoid the traffic congestion here.”	No long distance traveling
8	“I will not even want to travel around when traffic congestion takes place in a destination or considering taking public transportations.”	Reject public transport, Travel timely
9	“I prefer to walk to the destination if it is a short distance trip rather than trapping in the bad traffic.”	No long distance traveling
10	“I prefer to walk to the destination instead of taking public transports if it is a short distance trip.	No long distance traveling
11	“Walking is my first option instead of taking public transportations if the tourist spot is in a walking distance.”	Reject public transport
12	“Traffic congestion will not affect my decision towards visiting a destination.”	No effect
13	“I will not travel to a destination that will cause delay to my travel schedule.”	Travel timely

Findings showed that most of the respondents prefer not to travel long distance which involves transportation; to travel within areas which are reachable by walking distance; to travel in timely manner to avoid traffic congestion; and to reject the use of public transports.

### Interview with Tour Operators

In addition to the findings from the foreign tourists, an experience tour guide in Chiang Mai were also interviewed. The tour guide, Ms. Sureetip Guntawang or known as Ms. Noi has about 20 years of experience in tour guiding. These add on interview will provide more detail and different perspective towards the traffic congestions in Chiang Mai. The findings were consistent with tourists’ perception about the traffic condition in Chiang Mai. Based on Noi (2015, personal communication, 22 February), the main reasons observed that have caused traffic congestions in Chiang Mai were mainly due to festivals and unregulated street vendors control.

*“Traffic congestion mostly happened between 4p.m. to about 6p.m. It is the time when all the street vendors start to set up their stalls at the roadside. Mostly in the hotspot areas like Wa Roros market, Sunday-Walk street market and Wat Che Dee Luang. At the same time, it matches with the after school time especially for schools which are located near the night market. Special events such as water festival – Songkran and light festival- Loy Krathong are also seen to cause traffic congestion during the month of April and November. There were some trips that were cancelled due to the festivals”.*

### Site Observations

Site observations were carried out to verify the findings from the both interviews gathered.

Table 4: Data obtained through Direct Observation.

Overall perception	Evidence from observation
Poor traffic control	<ul style="list-style-type: none"> <li>• Huge numbers of street vendors were setting up at the roadsides.</li> <li>• Many “tuk tuk” and “songtaews’ were seen parking at the road sides.</li> <li>• Absence of traffic officers on duty.</li> </ul>
Irresponsible road users	<ul style="list-style-type: none"> <li>• Many drivers did not follow the traffic flow.</li> <li>• Many drivers tend to jump red lights.</li> <li>• Many cars were found simply halt and parked besides the roads.</li> </ul>
Irresponsible street vendors	<ul style="list-style-type: none"> <li>• The set-up of street stalls were overly beyond the limit of vehicle and visitors mobility.</li> <li>• The hawkers were inclined in ignoring other road users.</li> </ul>
Visitors congestions	<ul style="list-style-type: none"> <li>• Limited walk way for visitors to move around the temples.</li> <li>• Vendors were setting up stalls along the walk way in the temple.</li> <li>• Exiting visitors unable to give way to incoming visitors due to limited space and poor traffic flow system.</li> </ul>



## DISCUSSION AND CONCLUSION

Findings indicated that the traffic congestion has negatively affected the tourists' perceptions and feelings towards Chiang Mai. This negative effect has led them to adjust their traveling pattern in order to avoid rush-hour traffic. Some of the most significant reasons behind this behaviour was due to poor road management, irresponsible road users and vendors and poor public transportation within Chiang Mai. The respondents feel that the public transportation in Chiang Mai can be distressing or problematic. Other than that, illegal parked motor vehicles, narrow roadways and heavy flow of vehicles during rush hours were also considered as factors causing traffic congestions. The tourists acknowledged that they have experienced numerous setbacks during their trips in Chiang Mai related to public transportation. Furthermore, language barrier while communicating with the drivers was also a factor which deter them from using the public transports.

The respondents also stated that they were stressed due to delay caused by public transportations. This happened mainly due to additional spontaneous stops and late departure. The condition can be worst in time of rush hour. Hence, negative attitude can be formed linked to stress in addition to dejected feelings generated by waiting times and delays. Evidently, most interviewed tourists demonstrated that they were not interested in taking public transportations. A few of the dissatisfying issues mentioned by the respondents comprise long waiting time, short of relaxation, time doubt, lack of organization, irregularity, and incapable to alter route to stay away from traffic jam. Other than that, the respondents were also concerned about their road safety at the tourists' destinations. They mentioned that the street stalls were too close to the road living very limited walking space for tourist. This is similar to Indonesia where numerous street vendors can be observed operating at the roadsides creating massive inconvenience and safety issues (Dimas, 2008). Besides that, Vietnam encountered the same situation where the street vendors are hindering the traffic flow of the main city during their operation hours at the sidewalks. Evidently, the direct observations showed that the street vendors in Chiang Mai operate the business during the rush-hour causing bad traffic flow in the city.

As such, perceived unsafe would eventually demotivate tourists from visiting destinations associating to streets stalls. This argument can be supported by Chaipinit and Phetvaroon's (2006) suggesting that the decision to visit a place can be related to the attributes of the destinations such as landscape, security, and safety. Other than that, the major road safety issue in Chiang Mai was due to poor legal enforcement towards motorcyclists, 'tuk-tuks' and 'songtaews'. It is believed that the poor drivers' behaviour will bring impact the tourists in a negative way. Hazardous speed, simply parking and disobey of traffic signals are some of the drivers' behaviours which were acknowledged by the tourists. This could affects the tourist mood, reactions and their ability to deal with the stress on the road.

Here are some of the responses from the interviews with regards to poor regulation and misbehaviour of road users:

*"There were no proper guidelines implemented in using the driving lanes thus drivers keep crossing lanes which contributed to a more serious congestion. For example, there was no guideline shown that stresses on lane that is only permitted for public transport and lane which is made available for more than two passengers in car" (Penny, personal communication, 22 February 2015).*

*"The drivers in the city tend to frequently stop besides the streets without concerning other road users or the traffic behind them while other road users need to find their own way out" (Lim, personal communication, 22 February 2015).*

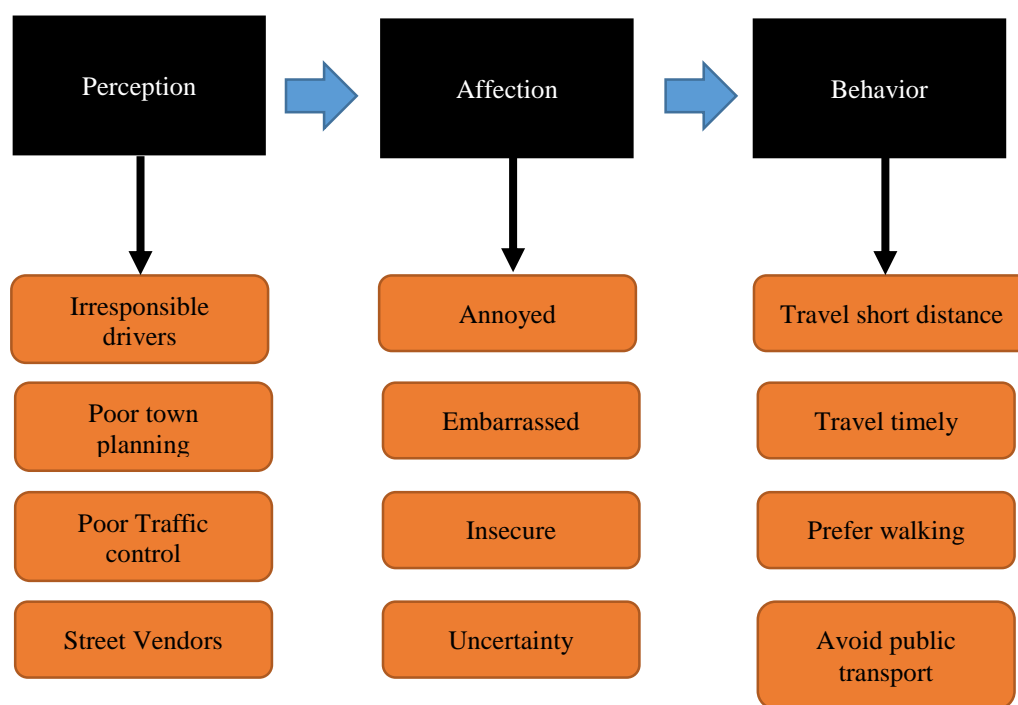
To conclude, these negative perceptions and perceived reasoning to the problem of traffic congestion in Chiang Mai have contributed to the change of traveling preference and patterns among tourists visiting the city. For example, tourists would prioritized less crowded spots over overcrowded ones. Otherwise, they can select the period of travel to avoid traffic congestion during peak periods. Many of the tourists were found to opt for walking as their transportation mode instead of taking public transports. This finding was consistent with Shariff and Shah's (2008) findings suggesting that most of the foreign tourists would decide to go on foot instead of waiting for the public transport. To some extent, the tourists prefer not to travel to the city during the time of traffic congestion.

Walking is still a foremost transportation mode for the tourists. However, tourists only integrate walking as their mode of transportation when it comes to short distance which is compatible with the results found in this

report. Most of the tourists decided to walk as they can encompass a strong hatred to taking long way routes or travelling opposite to the favoured walking route, even if the direct way is packed. This argument was supported by Helbing *et al.* (2002) suggesting that by walking, tourists can decide the best path to their next route and can travel directly ahead for given that possible and alter path as late as likely only if the substitute path is more eye-catching such as more light, a reduced amount of noise, a friendlier atmosphere and reduced waiting period at traffic lights. They can also walk with their preferred pace which match up to the most comfy walking pace given that it is not essential to go quicker in order to arrive at the destination early enough. Clifton *et al.* (2012) also mention that walking as a mode of transport is usually used for somewhat short trips.

Other than that, traffic congestion was also found to alter tourists' travel behaviour through amendment in departure time, alteration of route and also transport mode. Some of the tourists will change their travel pattern by having an earlier departure from their hotels to the destination. Cairnes and Goodwin (2002) argued that varying direction and varying trip time appear to be the most common reaction in avoiding traffic jams in major cities.

Figure 3: Summary of Findings



## REFERENCES

Andereck, K.L, Valentine, K.M, Knopf, R.C, & Vogt, C.A (2005). Residents' perceptions of community tourism impacts. *Annals of Tourism Research*. 32 (4), 1056-1076.

Aimkij, N. & Mujtaba, B.G. (2010). 'Branding and Brand Equity Measurement in the Beer Industry of Thailand' *Chinese Business Review*. 9 (4), 1-16.

Anderson, M.L. & Taylor, H.F. (2009). *Sociology: The Essentials*. U.S: Thomson Wadsworth.

BBC (2012). '10 Monster Traffic Jams from Around The World' *United Kingdom: BBC News Magazine*. Retrieved from: <http://www.bbc.co.uk/>.

Bovy, P.H.L. & Salomon, I. (2008). 'Traffic Congestion in Europe' *European Conference of Ministers of Transport: Economic Research Centre*. 91-94.

Chaipinit, W. & Phetvaroon, K. (2011). 'Motivation and Behavioural of Thai Outbound Tourists to Europe' *Journal of Tourism, Hospitality and Culinary Art*. 3 (1), 99-109.

Claudia, J., & Dogan, G. (2004). Distance effects on residents' attitude towards tourism. *Annals of tourism research*. 31(2), 296-312.

Citylife (2012). 'Research Proves the Bleeding Obvious' *Citylife: Chiang Mai*. Retrieved from: <http://www.chiangmainews.com/>.

City News (2012). 'The Big Squeeze' *CityNews: Chiang Mai*. Retrieved from: <http://www.chiangmaicitynews.com/>.

Crompton, J.L. (1979). 'Motivations for Pleasure Vacation' *Annals of Tourism Research*. (6), 408-424.

Cairns S, Atkins S, & Goodwin, P. (2002). Disappearing traffic? The story so far. *Municipal Engineer*, 151, 13-22.

- Derbaix, C. & Pham, M.T. (1991). 'Affective Reactions to Consumption Situations - a Pilot Investigation' *Journal of Economic Psychology*. 12 (2), 325-355.
- Dimas, H. (2008). *Street Vendors: Urban Problem and Economic Potential*. Indonesia: Department of Economics Padjadjaran.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers.
- Eagly, A.H. & Chaiken, S. (1993). *The Psychology of Attitudes*. Texas: Harcourt Brace Jovanovich College.
- European Conference of Ministers of Transport (2007). Managing urban traffic congestion. *European Conference of Ministers of Transport: Transport Research Centre*. Retrieved from: <http://www.internationaltransportforum.org/>.
- Havitz, M.E. & Dimanche, F. (1999). 'Leisure Involvement Revisited: Drive Properties and Paradoxes' *Journal of Leisure Research*. 31 (2), 122-149.
- Helbing, D., Molnar, P., Farkas, I.J. & Bolay, K. (2002). 'Self-Organising Pedestrian Movement' *Environment and Planning B: Planning and Design*. (28), 361-383.
- Hoets, H. (2012). 'Marketing Research Market: Focus Group vs. Depth Interview' *FocusGroupTips.com*. retrieved from: <http://www.focusgrouptips.com/>.
- Lew, A., & Mckercher, B (2006). Modeling Tourist Movements: A Local Destination Analysis. *Annals of Tourism research*. 33(2), 403-423.
- Lim, W.K. (2013). Foreign Tourist Attitude towards Traffic Congestion in Chiang Mai. Interviewed by: Yao, Y.H., Pornping Hotel, Chiang Mai. 24 February 2015.
- Mathew, T.V. (2012). Congestion Studies: Generation of Traffic Congestion. *Traffic Engineering and Management*. 1-3. Retrieved from: <http://nptel.iitm.ac.in/>.
- McGroarty, J. (2010). 'Recurring and Non-Recurring Congestion: Causes, Impacts, and Solutions' *US: UC*. Retrieved from: <http://www.uc.edu/>.
- Morgan, L. (2013). 'The Effects of Traffic Congestion' *American: USA Today*. Retrieved from: <http://traveltips.usatoday.com/>.
- Noi, S.G. (2015). Foreign Tourist Attitude towards Traffic Congestion in Chiang Mai. Interviewed by: Yao, Y.H., Pornping Hotel, Chiang Mai. 24 February 2015.
- Penny & Kenny (2015). Exploring Tourists' Attitude towards Traffic Congestion in Chiang Mai. Interviewed by: Aw, K.T., Tha Pae Road, Chiang Mai. 22 February 2015.
- Pomlaktong, N., Jongwilaiwan, R., Theerawattanakul, P. & Pholpanich, R. (2011). Thailand Development Research Institute: The Impacts and Benefits of Structural Reforms in the Transport, Energy and Telecommunications Sectors. 267-289.
- PRD (2011). 'First-Time Car Buyers to Receive an Excise Tax Deduction' *Thailand: The Government Population Relationships Department*. Retrieved from: <http://thailand.prd.go.th/>.
- Schallabock, K.O. & Petersen, R. (2008). 'Traffic Congestion in Europe' *European Conference of Ministers of Transport: Economic Research Centre*. 13-15.
- Sperling D., & Gordon D. (2009). *Surviving two billion cars: Driving toward sustainability*. New York: Oxford University Press.
- Shariff, N. M. & Shah, M. Z. (2008). Factors Influencing Travel Behavior and Their Potential Solution: A Review of Current Literatures. *Journal of Built Environment*. 11 (2), 19-28.
- Shyr, O.F, Chao, C.W., & Huang, C. K (2015). The impacts of New Transportation Systems on Tourism Behavior: The Experience of High-Speed Rail. *International Journal of Transport Economics*, 42(1), 89-110.
- Tanaboriboon, Y. (2003). 'Bangkok Traffic' *Asian Institute of Technology: Current Research Topics from Asia*. 17 (1), 14-19.
- Thaivisa (2013). 'Chiang Mai Forum' *American: Thai Forum*. Retrieved from: <http://www.thaivisa.com/>.
- Thaivisa (2013). 'Traffic and traffic Rules: Driving on Thailand' *Samui: Travel & Stay. Thaivisa Website*. Retrieved from: <http://samui.thaivisa.com/>.
- Tripadvisor (2015). 'Chiang Mai--No Longer Worth Going to' *American: Tripadvisor*. Retrieved from: <http://www.tripadvisor.in/>.
- Tripadvisor (2013). 'Should Tourists be Warned About Thai Driving Habits?' *Tripadvisor: Thai Forum*. Retrieved from: <http://www.tripadvisor.com/>.
- Trochim, W. (2006). 'Qualitative Measures' *Research Methods: Knowledge Base*. Retrieved from: <http://www.socialresearchmethods.net/>.
- TRB. (2000). *Highway capacity manual*, Transportation Research Board, National Research Council, Washington, D.C.