

## Road Safety Perceptions and Awareness from International Tourist's Perspectives

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### Summary:

Although a high number of road accidents are reported in Thailand every year, international tourists are not targeted and have been mostly ignored for their safe travel. Under foreign environment, tourists could drive in unfamiliar surroundings, misunderstand and misinterpret traffic signs and regulation, or even violate local traffic laws, knowingly or unknowingly. This study attempts to investigate underlying factors that could affect road safety perceptions and awareness. A systematic survey questionnaire is utilized and distributed to international tourists visiting Thailand. Statistical analysis techniques such as descriptive statistics and hypothesis testing are examined to identify significant factors that affect tourist's perceptions and awareness, while controlling for important variables. Findings indicate that to promote more traffic safety in Thailand, traffic laws should be more strictly enforced. In addition, statistical analysis results reveal that road user behavior of tourists are different across regions; therefore, it is necessary to target specific visitors in order to control some undesirable behaviors. Moreover, certain traffic signs may not be that comprehensible from a traveler's point of view. Findings would help highway and traffic organizations in better understanding tourist's travel behavior as well as contribute better road safety design standards serving both local and foreign users.

### Aim of Research:

This study investigates underlying factors that could affect road safety perceptions and awareness. Three main sources of road safety aspects, including road users, roadways, and vehicles will be studied using a comprehensive questionnaire survey of international tourists visiting Thailand. Three objectives are sought in the present study:

- 1) To investigate underlying factors that could affect road safety perceptions and awareness
- 2) To help highway and traffic authorities in better understanding tourist's travel behavior
- 3) To contribute to a better road safety design standards in Thailand, serving both local and foreign users

## Method of Research & Progression

In this study, a systematic survey questionnaire was utilized and distributed to international tourists visiting Thailand. In principle, foreign visitors both using public transport and renting private vehicles were surveyed mainly at the Suvarnabhumi International Airport, where most foreigners come in and out of Thailand. A sample size of least 1000 was expected in the study. The survey consisted of at least three main sections. First, a demographic and socio-economic data were solicited from foreign visitors, followed by a series of questions asking about their travel behavior in Thailand. In this second section, key issues related to road safety were asked. In the third question, a set of test-of-knowledge questions were used to measure the awareness and understandability of local traffic signs and regulations. Figure 1 shows the traffic signs that were used to test tourists for their understandability of Thailand traffic signs. Back translation technique was employed so that the consistency of the content in the survey is guaranteed. A pilot survey was conducted in Chiang Rai province. The actual experiment was conducted at the departure area of the Suvarnabhumi International airport, where most tourist were already completed their travel/business in Thailand. A total of 1027 surveys were collected and used for analysis.



Figure 1 Regulatory and Warning Traffic Signs

## Results of Research

Five issues that travelers agreed regarding road safety in Thailand are (1) "Public Transport is safe" (2) "I can read and understand traffic signs along roads" (3) "Traffic signs along roads are in good condition" (4) "Roads have adequate lighting" and (5) "Roads are safe in general" as shown in Figure 2. The majority of respondents feel that

public transport is safe in Thailand. On the other hand, they did not think that traffic law enforcement is strict at the moment. When they use public roads, the majority of respondents did not feel safe, both as a driver and as a pedestrian.

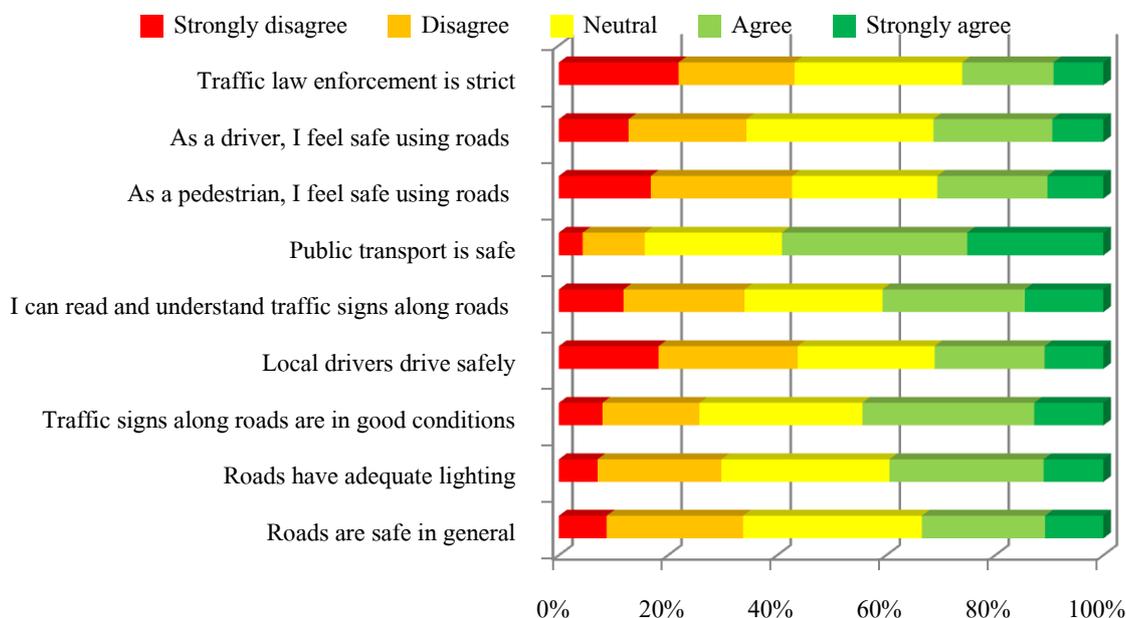


Figure 2 Perceptions of Road Safety by International Tourists

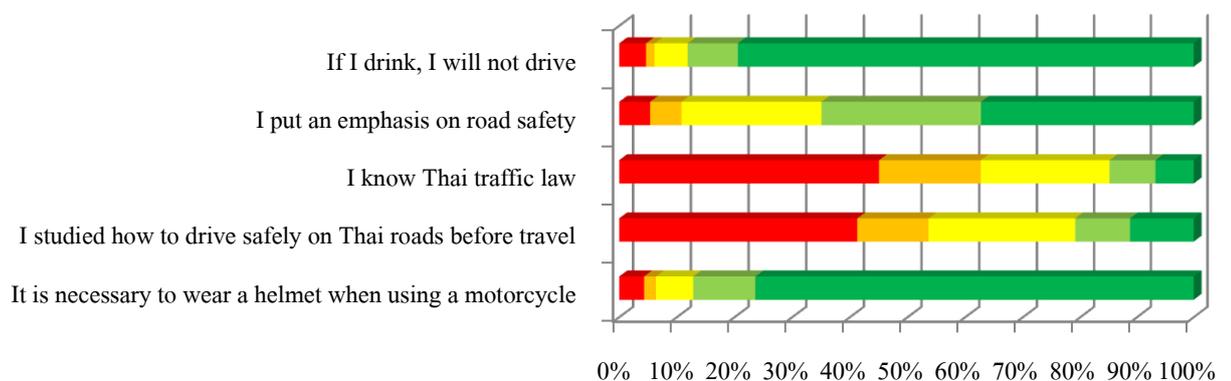
A chi-square based measure was taken in order to further analyze for similarities and differences among travelers from different areas as shown in Table 1. With a 99 percent confident level, we conclude that traveler’s origin (or their hometown) was a significant factor. In general, respondents from Asia agreed upon road safety issues in Thailand the most. On the contrary, respondents from America and Europe rated road safety issues in Thailand relatively low compared with those from other continents.

Table 1 Safety Perception Analysis

Safety Perception	Agree		$\chi^2$	p-value
	Highest	Lowest		
Roads are safe in general	Asia	America	76.179	0.01
Roads have adequate lighting	Asia	Africa	85.119	0.01
Traffic signs along roads are in good conditions	Asia	Europe	61.979	0.01

Local drivers drive safely	Asia	America	75.812	0.01
I can read and understand traffic signs along roads	Asia	America	38.524	0.01
Public transport is safe	Australia	Europe	29.327	0.10
As a pedestrian, I feel safe using roads	Asia	America	114.776	0.01
As a driver, I feel safe using roads	Asia	America	57.588	0.01
Traffic law enforcement is strict	Asia	America	84.365	0.01

The reason that road safety perception was found to be different among travelers might be due to their own behavior. Therefore, we further analyze their behavior and the results are presented in Figure 3. Most respondents did not know Thai traffic law and they did not learn about it before visiting Thailand. However, the majority of the respondents feel the importance of safety driving behaviors. For instance, they would not drive if they drink and they would use helmet when using a motorcycle.



**Figure 3** Summary of Respondent’s Road User Behavior

Another issue that we investigated is the understanding of Thai traffic signs, which is a critical component in terms of traffic engineering. A total of 20 different regulatory and warning signs were tested. Out of all the 20 signs used for the experiment, Figure 4 presents the top five traffic signs that respondents did not understand. It can be seen that the proportion of respondents under the red bar is more than 50 percent.

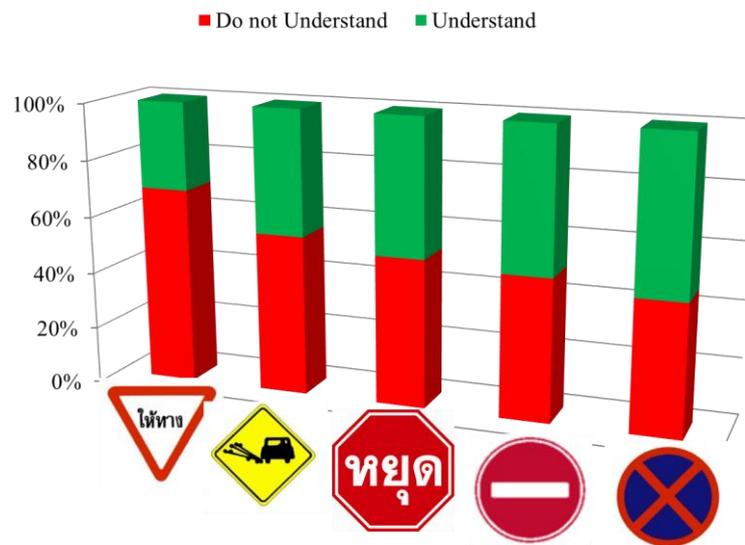


Figure 4 Five Most Critical Traffic Signs

**Future Areas to Take Note of, and Going Forward**

Road safety is regarded as a national agenda in Thailand. Given the fact that international travelers and tourists are mostly neglected in road safety consideration, it is thus worthwhile to investigate their perceptions and awareness regarding road safety in Thailand. To our knowledge, there has been no formal study like this research in the past. Therefore, findings from this research would benefit highway and traffic organizations in better understanding tourist’s travel behavior. In addition, the practicality of this research would contribute to a better road safety design standards in Thailand, serving both local and foreign users. Furthermore, as the ASEAN Economic Community (AEC) is being integrated, the findings from this study would promptly reveal key issues that need be prepared and addressed beforehand. In terms of future research, we suggest an in-depth analysis of tourists, segmenting by their origins, since it is found from the present study that their perceptions and awareness of road safety are different.

**Means of Official Announcement of Research Results**

Part of the results from this study is planned to be submitted for presentation at related national conferences such as the National Transport Conference and National Convention on Civil Engineering. The remaining findings are expected to appear in other proceedings and related journal.