

## **COMPLETION REPORT**

### **Public's Attitude on Fuel Consumption for Personal Transportation: Comparative Study on Scenarios in Japan, Malaysia, and Thailand**

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This project, entitled “Public’s Attitude on Fuel Consumption for Personal Transportation: Comparative Study on Scenarios in Japan, Malaysia, and Thailand” was commenced on 1 April 2018. The work in Malaysia involved two Final Year Students of the Mechanical Engineering degree program. Their work involved measurements and surveys that were conducted at selected sites and by an online survey tool. This study gauged the level of awareness on engine idling and its effects among Malaysian drivers. The study utilized online survey method and obtained 384 valid responses. More than 80% of the population sample were found to have at least some basic knowledge on the practice of engine idling and its effects to human and environment. The survey data was analyzed using matrix scoring system and the results revealed that the majority of the respondents were generally aware of the impacts of engine idling and were willing to change their driving habit. The analysis of the results also showed that age and gender were discovered not to play any role in influencing the level of awareness in the respondents. The study shows that Malaysian drivers may be well informed about engine idling practice thus may ease the implementation of policies and regulations by authorities to curb the practice in public. The study in Thailand was initiated through a discussion with a collaborator at King Mongkut’s University of Technology Thonburi in Bangkok. The study in Thailand was carried out through interviews, observations and online survey. The online survey did not get respondents most probably due to language barrier. Through interview and observation, it could be deduced that the situation in Thailand is similar to that in Malaysia, for which the hot and humid weather is regarded as the primary reason for drivers to leave the car engines idling. As for the study in Japan, a visit was made to Fukuoka on 24-26 September 2019 upon agreement with a correspondent who was studying at the University of Kyushu. The study in Japan was conducted through interview and observation. Overall, it can be concluded that drivers in all the three countries have a similar tendency of leaving their engines idling while parked at public places, in order to attain thermal comfort. The problem is more serious in Malaysia and Thailand due to the higher outdoor air and humidity as compared to those of Japan even in summer time. This implies that certain initiatives should be taken in order to reduce the problem, considering the impact on the health of pedestrians.

Publication of the Results of Research Project:

Verbal Presentation (Date, Venue, Name of Conference, Title of Presentation, Presenter, etc.)

Thesis (Name of Journal and its Date, Title and Author of Thesis, etc.)

The followings dissertations were submitted by the final year students as part of their graduation requirements:

1. Ahmad Danial Razali (2019) On Emission, Fuel Wastage and Heat Dissipation from Idling Petrol- engine Vehicles, Final Year Project Dissertation, Department of Mechanical Engineering, Universiti Teknologi PETRONAS, Malaysia.
2. Syafazreen Samsudin (2019) Study of Emission, Fuel Wastage and Heat dissipation from Idling Diesel Engine Vehicles, Final Year Project Dissertation, Department of Mechanical Engineering, Universiti Teknologi PETRONAS, Malaysia.

The following article is intended to be published as a journal article:

1. M.N.Z. Moni, S.A. Sulaiman, R. Salleh and H. Harun, "Behaviour of Malaysian Drivers Towards Engine Idling," submitted to Transportation Research Part D: Transport and Environment.

Book (Publisher and Date of the Book, Title and Author of the Book, etc.)