

# **Strategies to Reduce Greenhouse Gases Emission from Transport: Case Study of University of Malaya**

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## **1.0 INTRODUCTION**

Traffic congestion at the University of Malaya (UM) is somehow predictable but inevitable. This situation worsens especially during peak hours. Due to less-stringent security control, some of the non-UM staff or student attempt to take the roads inside UM as an 'short cut' from Kuala Lumpur to Petaling Jaya and vice versa. This act can save their time from facing traffic jam and the distance is shortened. However, these moving motorized vehicles cause large amount of greenhouse gases being emitted and pollute the air.

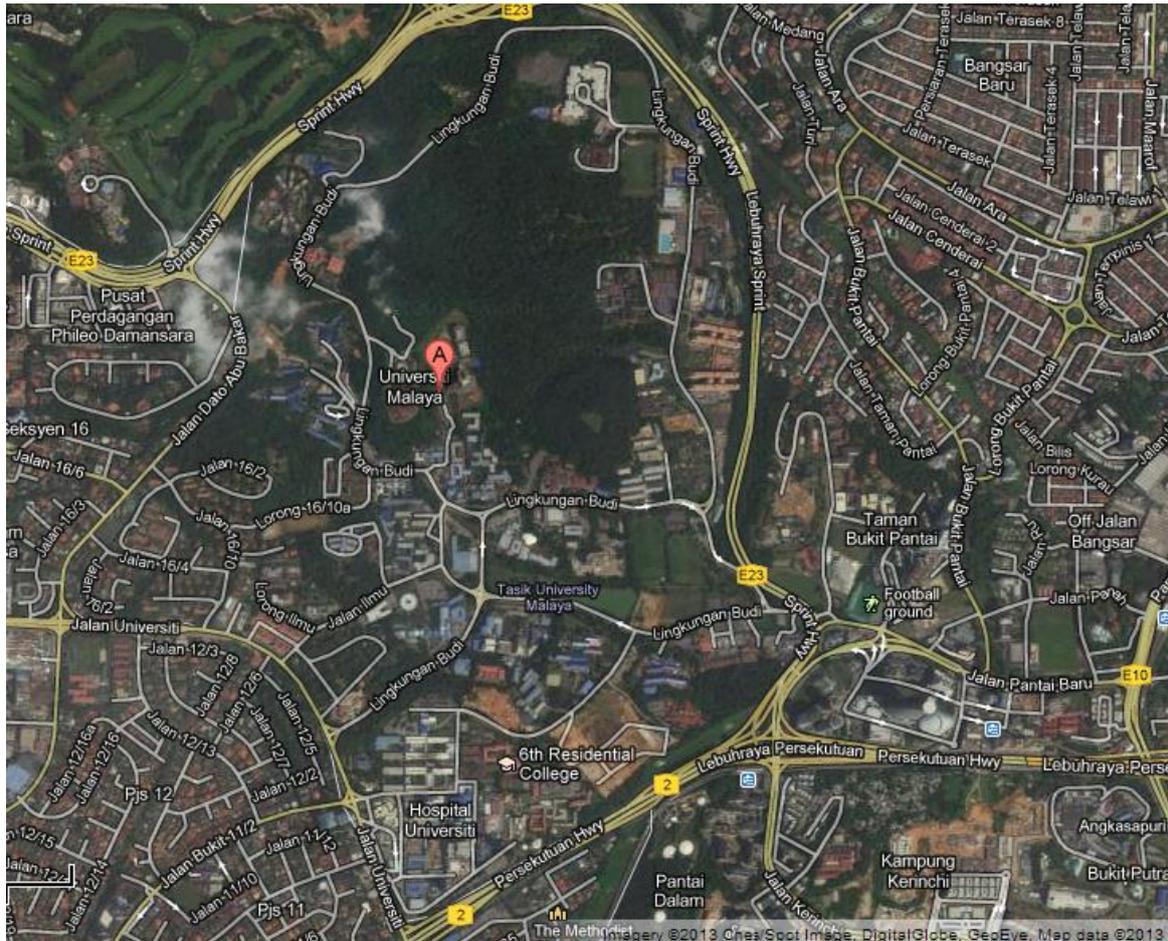
Many people in University Malaya unsatisfied with the congestion and air pollution problem in the campus. Existing policy in University Malaya that only allows the final year undergraduates, postgraduates, staffs and lecturers to bring car is not effective enough to act as a way to relieve the congestion and GHG emissions problems in campus. There are still a lot of students bring their own cars into campus without permission.

The problems of congestion, accident damages and depletion of non renewable resources rise when there is a rapid increase in the transportation growth. Social impacts on aesthetic, human health and community livability are inevitable. Air pollution, climate change, noise and loss of habitat are major environmental impact caused by transport sector.

As GHG emissions have been increasing for most modes of transport, establishment of policies are essential aiming to lower the emission from the sector. A study which focuses on the transportation in UM will be conducted to investigate the sorts of policies and technologies that are needed to achieve substantial emissions reductions from the transport sector. A well-planned study will be shown in this proposal. By collecting and analysing the data, some suggestions and recommendations will be provided upon this study.

## 2.0 BACKGROUND OF THE STUDY

University of Malaya is public research university located in Kuala Lumpur, Malaysia. Today, it has more than 26,000 students and 6,000 staffs. There are 5 main entrances in University of Malaya, including Kuala Lumpur Gate, Petaling Jaya Gate, Damansara Gate, Section 16 Gates, and INTAN Gate.



**Figure 2.1: University of Malaya, Kuala Lumpur, Malaysia in Google Map**

## 3.0 PARTNER

In this study, I will be assisting the Centre for Transportation Research (CTR). CTR is a multi-disciplinary research unit comprising of academics and researchers from within the university who are involved in one way or another and having interest in the field of transportation. The group has evolved through the collective effort of the academics, engineers and researchers from the Transportation Research Group (TRG), Department of

Civil Engineering, University of Malaya as well as other related departments within the university.

Apart from conducting research projects and supervision of post-graduate research, CTR has also been active in providing professional consultancy services to both the public and private sectors. It has been the basic aim of the research group to share the experience and expertise within CTR with others for mutual benefit.

#### **4.0 OBJECTIVES AND SCOPE OF WORKS**

##### **4.1 Objectives**

- To quantify the GHG emissions from transport in University of Malaya
- To assess the impacts of transportation GHG emissions in University of Malaya on the environment
- To propose strategies or policies to solve traffic problems in campus

##### **4.2 Scope of works**

This study attempts to propose strategies to solve traffic problems in campus. Within the context of this study, it includes the identification and quantification the transportation GHG emissions, and also access its impact on the environment and human health. In order to quantify the emissions, 3 main things have to be done, which includes:

1	Traffic Survey <ul style="list-style-type: none"><li>• Set up of video cameras at entry-exit points.</li><li>• Data counting to obtain the traffic volume in campus.</li></ul>
2	Origin-Destination Survey <ul style="list-style-type: none"><li>• To determine the distance travelled by drivers in campus by survey form/questionnaire and DTC.</li></ul>
3	Speed Survey <ul style="list-style-type: none"><li>• Analyse the data collected by ATC according to each category of vehicles.</li><li>• To compare the average speed of vehicles with the speed limit in campus.</li></ul>

My study will cover the whole area of University of Malaya, with a diverse campus population of approximately 26,000 students and 4,000 staffs (as of January 2012).<sup>[8]</sup> Many countries especially in Europe and US have implemented various strategies to promote green transport in campus such as eco friendly vehicles, walking and cycling. Through this research, I would like to see and examine whether cycling is feasible to be adopted as transportation system in campus. This strategy aims not only to reduce GHG emissions, also to alleviate the traffic congestion problem in campus especially during peak hour.

5.0 TIMESCALE

Table 5.1: Project Time Scale

No	Task Name	Start	Finish	Jan				Feb				Mac				Apr				May						
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
1	<i>Start Project</i>	1/1/2013																								
2	<i>Project Preliminaries</i>																									
2.1	Discussion	1/1/2013	30/4/2013																							
2.2	Literature Review	7/1/2013	28/2/2013																							
2.3	Procedural Design	7/1/2013	25/1/2013																							
3	<i>Data Collection</i>																									
3.1	Traffic Flow	28/1/2013	28/2/2013																							
3.2	Speed Data Collection	4/2/2013	28/2/2013																							
3.3	Origin-Distance Survey	26/2/2013	29/3/2013																							
4	<i>Data Analysis</i>	18/2/2013	26/4/2013																							
5	<i>Report Writing</i>	8/4/2013	31/5/2013																							
6	<i>End Project</i>		31/5/2013																							