

## Session 6

Afternoon, March 21 (Thursday)

Time: 15:45~18:00

Venue: Mercator 1

**9 presentations-Topic: "Urban and Transportation Engineering"**

**Session Chair: Prof. Jan Baeyens and Prof. Akmal Abdelfatah**

M4032 Presentation 7 (17:15~17:30)

The Effect of Highway Gradient on Passenger Car Equivalents (PCE) of Two-Lane Highways in Thailand

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*Abstract*—This paper is aimed to introduce the effect of highway gradient on Passenger Car Equivalent (PCE) values of the 13 types of vehicles on two-lane highways in Thailand. The study began with a literature review of PCEs, and then 12 sections of two-lane highway were intentionally selected and traffic data collected by using digital video cameras during 6:00 A.M. to 6:00 P.M. for two days for each site. After decoding video signals to identify traffic volumes, speeds, and time headways for all vehicle types. Next, the Lagging Time Headway (LTH) method was selected and applied to find the average 15-minute PCE values for every site. The analysis results showed that a highway gradient is a significant factor related to the PCE value. Moreover, the recommended PCE value of a two-lane highway under uninterrupted traffic flow according to the highway gradient was proposed in this study.