Policy Analysis of MRT Development Impacts on Commuting Mode Choice

Mitigating adverse impact of conflicting policies is important. Fuel subsidy is such example that hampers potential effects of mass rapid transit (MRT) being currently under construction in one of the most congested cities in the world, Jakarta. In order to understand the scale of adverse impact of conflicting policy, choice experiments for private vehicle commuters in Jakarta on willingness to shift to the MRT in future when the MRT become available, were conducted before (2013) and after (2015) removal of the fuel subsidy. The mixed logit models reveals that scale of impacts on probability to shift for the MRT due to the subsidy removal is significantly large compared to that of the best available feasible options for further improvements of MRT services. This effect is leveraged by joint implementation with road pricing and larger effect is expected for private vehicle commuters than motorcycle commuters. Moreover, it is found that after the implementation of fuel subsidy removal, incremental economic benefit by the shift to the MRT is significantly increased for both vehicle and motorcycle commuters even actual fuel price was not changed due to decline of international crude oil price during the period.

The dissertation consists of 7 chapters beginning with contextual background, motivation and objectives of the study in Chapter 1. Chapter 2 provides literature review and theoretical framework, followed by Chapter 3 summarizing current commuters’ behaviors and additudes with available secondary survey data. Chapter 4 and 5 analyze the willingness to shift to the MRT before and after the implementation of subsidy removal policy, with data collected from choice experiments in 2013 and 2015. Chapter 6 evaluates social benefits by synthesizing the findings of Chapter 4 and 5. Finally, Chapter 7 summarizes main findings and concludes with the policy recommendations.

As a part of findings of the dissertation, the applicant has published two refereed article in domestic journal.

In conclusion, all the examiners unanimously judged that academic contributions of the dissertation in environmental economics and the achievements of the applicant are qualified for the Ph.D. of IDEC, Hiroshima University.