

Thesis Title	Regional Economic Impacts of Transport Infrastructure Investment
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Abstract

The objectives of this thesis were to develop the regional economic impacts of transport infrastructure investment forecasting model. The multi-regional input-output analysis was applied to develop these models. In this thesis the study area was divided into 6 regions and the industries were classified into 6 sectors. The models were included 2 parts, first part was the regional input-output tables and the second part was sub-model included the transport cost model, the interregional commodity flow model and the final demand model. The procedures of model development were divided into 3 parts. The first part was to construct the regional input-output tables by RAS method along with location quotient method. The second part was to construct the sub-model by regression analysis. Finally, the model validation was done by comparison road and rail freights forecasted by the road and rail interregional commodity flow model along with data from Bangkok-Chonburi Intercity Motorway and Klong Sibkao-Kaengkoii railway line as case studies, respectively with survey freight data collected by Ministry of Transport and Communication (MOTC). The results from model validation indicated power function was the best pattern of the road and rail interregional commodity flow model for all and some sectors, respectively. Moreover the models were applied to study regional economic impacts of existing and hypothetical transport infrastructure investments since 1995 to 2005 and 2000 to 2010 respectively. The existing transport infrastructure investment was Bangkok-Chonburi Intercity Motorway. The hypothetical alternatives were linkage from the northeast or south region to the west region by highway or railway investments.

The results from model application in comparison economic impacts of with and without Bangkok-Chonburi Intercity Motorway investment indicated such project investment contributed more output of main sectors, agriculture and manufacturing in all regions except north and south region, and national total output about 3.56 percent. For the results from comparison economic impacts of each hypothetical alternative indicated that highway investment was more advantageous for economic development in the northeast region than railway investment, which oppose from economic development in the south region.

Keywords : Regional Economic Impacts / Input-Output Analysis /
Transport Infrastructure Investment / Forecasting Model