SUMMARY

A Study on Transport Inclusion Index
to Reduce Social Exclusion and Its Application

Bae Yunkyung, Choon Yong Yi, Sang Keon Lee,
Im Youngtae, Yong Seok Ko, Kim Sangrok

Recently, Inclusive Growth and Inclusive Cities have received a great deal of international attention, which emphasize not only economic growth but also equitable opportunities for economic participants. In Korea, there is also a growing research stream to apply these concepts for developing effective policies that achieve both economic growth and social integration. In the light of this tendency, transportation policies also need to be designed and evaluated in the context of Inclusive Growth in that transportation systems enable people to conduct economic and social activities by providing accessibility to activity places such as office, hospital, school, and welfare facilities. Therefore, an improvement plan on transportation systems may contribute to reducing social exclusion by reducing barriers to vulnerable social group being able to more easily access such activity places. In this context, it is necessary to study how to evaluate the contribution of a transportation improvement plan to reducing social exclusion.

The present study aims to (1) investigate social exclusion with respect to transportation service by different regions, (2) measure the effects of a

transportation improvement plan on reducing the social exclusion, and (3) suggest policy strategies to achieve Inclusive Growth in transportation planning. The notion of "social exclusion with respect to transportation service" used in the study is defined by "the difficulty in the participation of economic and social activities due to relatively poor mobility and accessibility even though the needs for such activities in the modern society is becoming more diverse and larger than in the past."

There are three main contributions expected through the present study. First, the study clarifies the concept of social exclusion with respect to transportation service and analyze the effects of the level of transportation service on the social exclusion by different regions. Second, the study investigates the factors affecting different level of the social exclusion by analyzing the casual-relationships among the level of social exclusion, the level of transportation services and socio-demographic characteristics. Third, the study develops the index for Inclusive Transportation which can be employed for evaluating transportation investment plans.

The study conducted an empirical analysis in order to investigate the factors affecting the social exclusion. The empirical analysis consists of four sub-analysis: the supply level of transportation infrastructure by region, the accessibility to facilities, the activity participation, and the factors affecting the social exclusion. In particular, the accessibility to facilities was evaluated through API analysis based on data of T-map and Google, which measures travel time between main activity facilities and transportation facilities. The activity participation was analyzed using the National Household Travel Diary Survey Data. It was assumed that a low frequency of activity participation can represent the social exclusion due to relatively poor accessibility to main

activity facilities. A structural equation model was estimated to identify endogenous relationships among socio-demographic characteristics, the supply level of transportation infrastructure, the accessibility to facilities, and the social exclusion represented by the activity frequency. The estimation results were applied for developing the index for Inclusive Transportation which reflects the perspectives of both the users and the supply sides.

The outcome of the present study would be helpful for policy makers to design a transportation improvement plan for achieving Inclusive Transportation. First, the index for Inclusive Transportation can be applied in the decision-making process of transportation investment projects. Second, the index can be employed as a measure of the level of transportation services in a specific area. Third, the index can be utilized to identify a vulnerable area with respect to public transportation service. Lastly, the index can be combined with the existing index.