## 論文審査の要旨

<table>
<thead>
<tr>
<th>博士の専攻分野の名称</th>
<th>博士（工学） Dr. Eng.</th>
<th>氏名</th>
<th>XIONG YUBING (熊 鈺氷)</th>
</tr>
</thead>
<tbody>
<tr>
<td>学位授与の要件</td>
<td>学位規則第4条第①・2項該当</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 論文題目

Effects of Land Use and Transport on Quality of Life: A Life-oriented Behavioral Analysis

### 論文審査担当者

主査
Chief: Junyi ZHANG (Professor, Graduate School for International Development and Cooperation, Hiroshima University)

審査委員
- Member: Akimasa FUJIWARA (Professor, Graduate School for International Development and Cooperation, Hiroshima University)
- Member: Shinji KANEKO (Professor, Graduate School for International Development and Cooperation, Hiroshima University)
- Member: Keshav Lall MAHARJAN (Professor, Graduate School for International Development and Cooperation, Hiroshima University)
- Member: Janet Robin STANLEY (Principal Fellow, Melbourne Sustainable Society Institute, Melbourne University, Australia)

### [論文審査の要旨]

Motivated by the lack of interdisciplinary methodologies with life considerations for land use and transport policy decisions, this paper aims to offer behavioral insights into cross-sectoral policy making under the framework of the life-oriented approach, which argues that people’s life choices are not independent of each other.

This is the first thesis in literature to examine the interdependencies of a large set of life choices (about 80 dependent variables) across nine domains (residence, employment, education and learning, health, family budget, family life, neighborhood, leisure and recreation, and travel behavior), after controlling for the effects of land use attributes, and further quantify the effects of the above life choices on quality of life (QOL: measured by happiness and life satisfaction both as a whole life and at the domain level) at different time scales. Especially, quantifying the effects of life choices on QOL over time based on a two-wave panel data is unique. Furthermore, focusing on three land use related social issues in Japan, i.e., (1) women’s labor participation and childcare, (2) young adults’ life choices linked with out-migration, and (3) elderly mobility, the author showed how to deploy the life-oriented approach from the perspective of integrated land use and transport policy making with an emphasis on QOL.

By cleverly applying several statistical and econometric models, including exhaustive chi-squared automatic interaction detector (exhaustive CHAID), Bayesian Belief Network (BBN), structural equation model (SEM), recursive multivariate probit model, and an improved multinomial logit (MNL) model, and using three sets of data collected in various cities of Japan (a cross-sectoral survey of life choices and QOL with 2178 respondents in 2010, a two-wave panel survey of life choices and QOL with 422 respondents in 2010 and 2014 (the panel survey was done by the author), and a retrospective life history survey with 1,400 respondents in 2010), the author provided a series of implications to cross-sectional urban policies, which could better facilitate the consensus building.

This thesis deals with important behavior and policy issues. With the above evidence, it is also obvious that this thesis has its own originality and its contribution to literature is significant. The thesis consists of eight chapters (1: Introduction; 2: Literature review; 3: Data; 4: Empirical evidence of behavioral interdependences across life choices; 5–7: Life-oriented behavioral analyses of women’s job participation, young adults’ migration, and the elderly mobility; 8: Conclusion, limitation, and future research).

Related to this thesis, the author published 6 refereed papers and was invited to write three chapters in a Springer book published in 2016. In addition, 4 papers are under review and the author’s papers were presented 8 times at international conferences.

With the above review, it is judged that the author is sufficiently qualified to be awarded a degree of doctor of engineering.