



A Basic Study on Implementation of Area Zoning Method in Compact City Toyama

メタデータ	言語: eng 出版者: 公開日: 2022-04-18 キーワード (Ja): キーワード (En): 作成者: Akui, Kohei, Kuriyama, Naoko, Kubota, Yoshiaki, Takayanagi, Yuriko, Honda, Yutaka, Shimomura, Yasuhiko メールアドレス: 所属:
URL	http://hdl.handle.net/10466/00017653

A Basic Study on Implementation of Area Zoning Method in Compact City Toyama

Kohei Akui*, Naoko Kuriyama**, Yoshiaki Kubota***,
Yuriko Takayanagi***, Yutaka Honda***, Yasuhiko Shimomura*

1. Introduction

Rapid population decline and aging are undergoing in Japan's local cities, the realization of a comfortable living environment for the elderly and child-rearing generations has become a major issue. Under these circumstances, based on the "Compact City Plus Network", an ongoing land formation policy of Japanese government, that has indicated a policy of urban restructuring to improve accessibility by collecting public utilities, commercial facilities and dwellings, centering on public transport. The urban structure of Toyama has attracted attention as an advanced compact city in Japan, and takes the form of a "dumpling" and "skewer". Although urban functions in the city center area are improving, suburban regional bases don't have enough urban functions necessary for daily life, such as public transport, public utilities and commercial services. For these issues, it is necessary to understand the actual situation of each regional base and to compare it with the future vision of the region. Until now, we conducted a study to qualitatively compare the location and access of public transport services and public utilities, and the location and access of commercial services, based on the habitation characteristics of each regional base in Toyama¹⁾. The purpose of this study is to obtain knowledge on the construction of sustainable city planning method "Area Zoning", by comprehensively analyzing the commercial and public characteristics of local district areas, and elucidating the characteristics of similarities and differences.

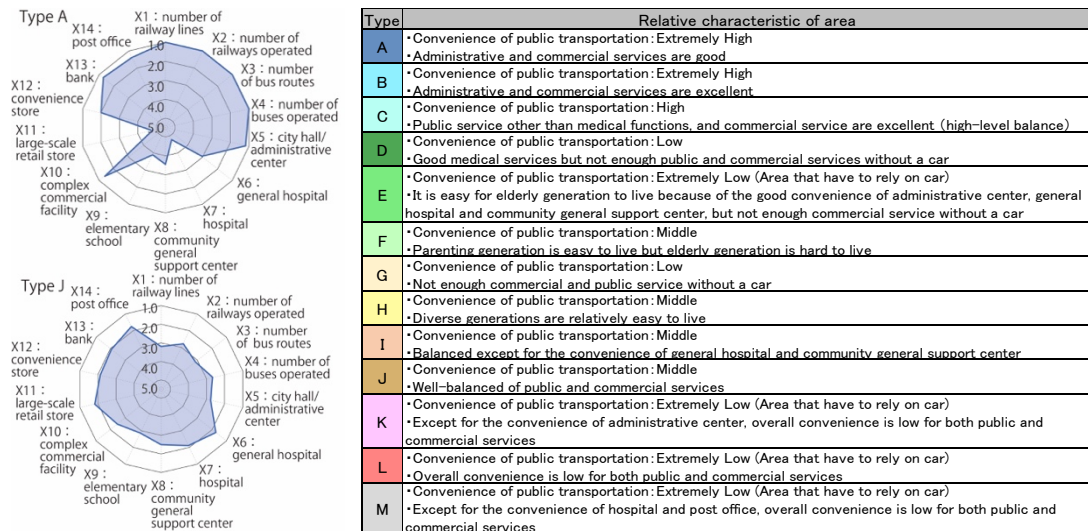
2. Methodology

In this study, it was dealt with 8 regional bases (City center, Inari-Machi, Minami Toyama, Hayahoshi, Kureha, Iwase, Mizuhashi and Yatsuo) in Toyama City. It covered 302 local district areas with a foot area of 800 m from the main station of each region. 9 factors (number of railway lines, railways operated, bus routes and buses operated, distance to city hall/administrative center, general hospital, hospital, community general support center and elementary school) comprised public characteristics. 5 factors (distance to complex commercial facility, large-scale retail store, convenience store, post office and bank) comprised commercial characteristics. For the 302 areas, each factor was compared in a 5-step range and evaluated using a radar chart. Based on the cluster analysis using their results, it was projected on a map using GIS. We showed the characteristics of similarities and differences that appeared in each region base, and considered the possibility of constructing an area zoning method.

3. Findings and Discussion

Based on 13 types of classification by cluster analysis, the radar charts consisting of 14 factors were created and considered their characteristics. Type A and B are extremely convenient for public transportation and have excellent administrative and commercial services. Type J has

a well-balanced. Type E is easy for the elderly to live in, but not enough commercial service without a car. Types K, L and M are very low convenience of public transportation, and low convenience for both public and commercial services (Figure-1). It was projected 13 types on 302 local district areas by using GIS, based on the similarity, the unity at each regional base was shown. Types A and B are shown around Toyama Station and Sogawa in the city center. Type C that has a high-level balance is located out of Type B. Type F that parenting generation can live easily is located on both sides of type A and B. Type J is located around Inari-Machi. Type H that various generations can live easily is located around the north of Toyama Station. Type F and J that moderate in both public transportation convenience and public and commercial services are



located east of Hayahoshi Station (Figure-2).

Figure-1. Radar chart based on cluster analysis and characteristics of each classified area

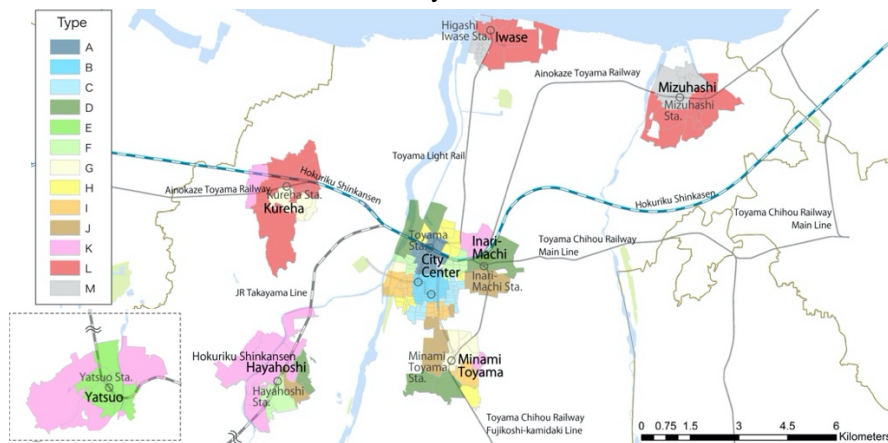


Figure-2. Distribution of similar areas by regional base

4. Conclusion

In this study, it was performed cluster analysis using public and commercial characteristics focused on local district area of regional bases in Toyama, and classified into 13 types. Based on the elucidation of that characteristics, the united area was shown. The findings will also be useful for guiding public and commercial functions through selection and concentration, for soft policies that induce changes in local lifestyles, and the possibility of "Area Zoning" can be shown.