

Easy forecast methods of future district images to prepare for the well-planned downsizing or restructuring of cities

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1. Foreword

Regardless of whether one lives in a provincial city or the greater metropolitan area, population decline and aging is progressing rapidly in suburban built-up areas outside the city core, and with it, a rise of even more serious urban issues can be seen, like an increase in empty houses and vacant lots, and a drop in the quality of living due to withdrawing living convenience facilities. The switch to a centralized urban structure is therefore a large issue in urban planning today. In this report, we will provide an overview of easy forecast methods of future district images in suburban built-up areas that are currently being developed by NILIM to support initiatives regarding the well-planned downsizing or restructuring of suburban built-up areas, which are directly linked with the centralization of living functions and urban service functions in the city core.

2. Easy forecast methods of future district images of suburban built-up areas

The easy forecast method of future district images in suburban built-up areas is a fundamental analysis for

selecting candidate districts for well-planned downsizing or restructuring, and is structured upon the future population/households forecast model, and forecast model of the continuation possibility of living convenience facilities.

(1) Future population/households forecast model

The future population/households forecast model is set in district units (small areas in the national census), and by inputting the most recent number of population/households divided by five-year age groups and gender, the future number of population/households divided by five-year age groups and gender can be predicted in chronological order. Two kinds of predictive methods can be selected: a primary factors cohort, or a cohort change-rate method, and in the former case, settings for the net migration rate (social mobility rate) reflecting regional attributes, can also be set. The program, which allows easy operations by local government officers, will be developed on a Microsoft Excel-based platform.

(2) Forecast model of the continuation possibility of living convenience facilities etc.

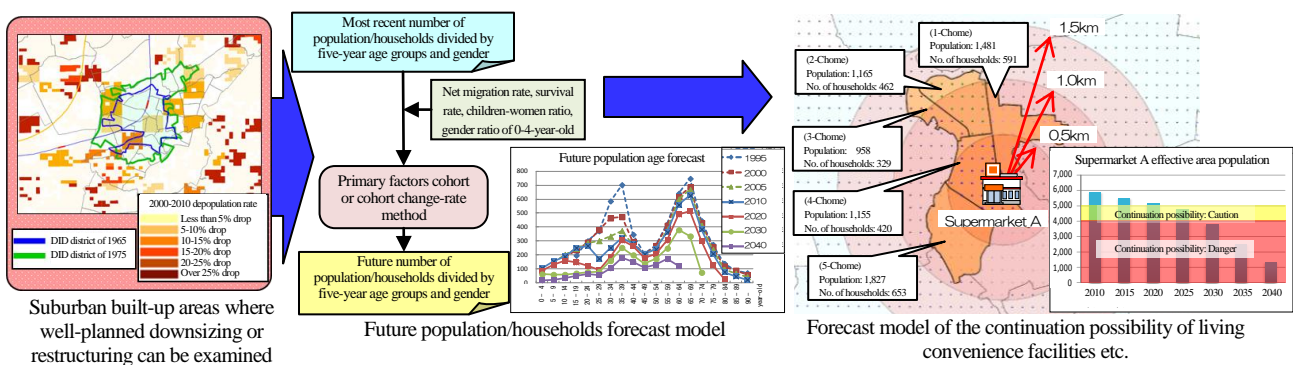


Figure: The schematic of the easy forecast methods for the future district image of a suburban built-up area

living convenience facilities etc.

With progressing declines in population/households, there is a concern that living convenience facilities like shops and medical facilities located inside or around the district facing severe running costs will be forced to close, thereby creating a drop in the residents' quality of living, and accelerating the population decline even further. The forecast model of the continuation possibility of living convenience facilities etc. predicts the continuation possibility of facilities like shops and medical facilities, by analyzing the location, the effective area, the management viability population conditions of each facility, and chronological forecast results based on the future population/households forecast model. The facility access possibility rate of the residents can also be calculated. This model, which will allow easy operations by local government officers, will also be developed on a Microsoft Excel-based platform.

3. Conclusion

We would like to expand on the easy forecast methods of the future district image of suburban built-up areas introduced in this report by adding other functions like infrastructure operation/maintenance cost evaluation methods etc., as a way to contribute to the selection of candidate districts for well-planned downsizing or restructuring initiatives.

(Reference)

1) Development of the techniques of maintenance suburban built-up areas and the techniques of site planning review for well-planned downsizing or restructuring of cities.

http://www.nilim.go.jp/lab/bcg/mailmag/pdf/ml177_1.pdf