

## **A study on the future urban structure based on the inhabitant's intention in small town**

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### **Abstract**

In recent years, the word “compact city” is becoming popular as a suite urban structure for a population decrease society in Japan. In the previous studies, some researchers evaluated the scenario from the viewpoints of CO<sub>2</sub> emissions and infrastructure maintenance costs. On the other, there are few studies building scenarios from viewpoints of inhabitant's intention and their daily life. However, it is necessary to build a compact urban structure scenario based on inhabitant's intention and evaluate the scenario based on inhabitant's intention from viewpoints of CO<sub>2</sub> emissions and infrastructure maintenance costs to realize sustainable city. This study aims at building the compact urban structure scenarios based on inhabitant's intention for Hutyu City, Hisoshima in 2035 and also evaluating them from the viewpoints of CO<sub>2</sub> emissions and infrastructure maintenance costs by using GIS.

As a result, three scenarios, “major inhabitant's intention scenario”, “older men's intention scenario” and “women's intention scenario” are made by using the questionnaire survey results in this study. Also these three scenarios are more efficient in both CO<sub>2</sub> emissions and infrastructure maintenance costs than BAU scenario. It can be said that the scenario based on inhabitant's intention may also have effects.

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