

Spatial Distribution of Bench, Trash Box and Phone Booth in the University of Tsukuba and Its Surrounding Area.

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1. Purpose

The purpose of this study is to examine the spatial distribution of bench, trash box and phone booth by using GPS and GIS software.

2. Study Area

The area of this study is in the University of Tsukuba and its surrounding area, but the spatial distribution of trash box and phone booth are focuses on the University of Tsukuba particularly.

3. Methodology

This study includes 2 steps. First, in order to facilitate the understanding of this paper, it seem necessary to examine the spatial distribution of bench, trash box and phone booth by each items. Second, this study will analyze the spatial distribution of bench, trash box and phone booth based on land use characteristics.

The term and method of collecting the data was done on November 28-30, 2009 by using GPS equipment (Garmin). Laboratory work was done on December 1, 2009; deal with the data and analyze the spatial distribution of bench, trash box and phone booth with the Tsukuba city map. The GPS waypoints were downloaded by using MxGPS and subsequently uploaded in the ArcGISv.9.3 for integration with other datasets.

4. Results

The results are shown the spatial distribution of bench, trash box and phone booth applied with land use map in the University of Tsukuba and its surrounding area.

First, the total of 373 benches are shown in Figure 1. Most of bench are distributed in the west zone such as the University of Tsukuba Hospital area, the Matsumi park area and Tsukuba Expo Center area respectively.

Second, the spatial distribution of 44 trash boxes and 13 phone booths (Figure 2) are spread in the other public area and facilities near the residential areas such as Hirasuna and Oikoshi dormitories etc. including the central zone of the University of Tsukuba which there are many building. However, nowadays amount of phone booth is decreasing, while the use of mobile phones is increasingly, due to its important roles and comfortableness.

5. Conclusion

There is no apparent relationship between bench, trash box and phone booth. Thus, in order to reveal detailed the spatial distribution of each items, it's necessary to get more detailed data and access through correlation using social indexes and population data included.

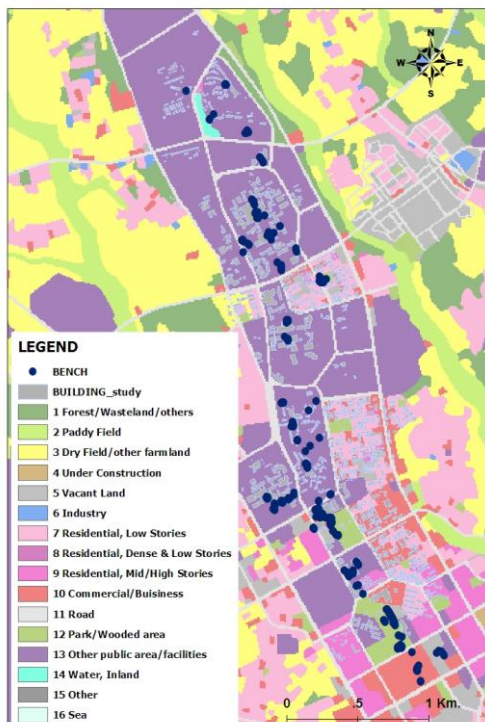


Figure 1: The Spatial Distribution of Bench.

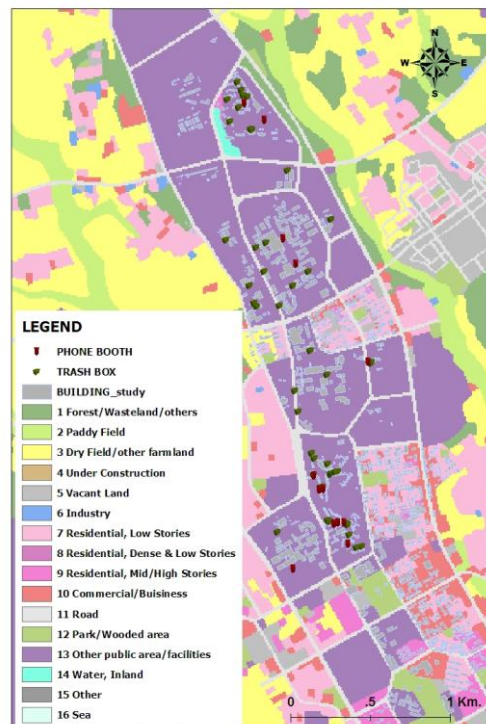


Figure 2: The Spatial Distribution of Trash Box and Phone Booth.