

Locational characteristics of public telephones in Tsukuba

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1. Purpose

The purpose of this paper is to examine locational characteristics of public telephones in Tsukuba using a GPS facility and GIS software.

2. Research area and Method

My research areas are the Tsukuba center (Azuma, Takezono) 28 (41.2%), Amakubo 7 (10.3%), Kasuga 6 (8.8%) and around University of Tsukuba (Tennodai) 27 (39.7%). Each area represents a commercial, residential and public district individually. The term and method of getting data was November, 28~30 and December, 4 in 2007 on foot. The contents of research items are organized as the followings; public telephone types, for only domestic or international calling included or not, English support or not, booth types (for the disabled), card selling place or not. In addition, this research was progressed by two steps. First, to facilitate understanding of this paper, it seems necessary to examine general locational characteristics of public telephones by each item. Second, I provided to see how public telephones are distributed by distance and land use characteristics.

3. Data

To analyze locational characteristics of public telephones in Tsukuba, I used GPS facilities and GIS software as main methodologies with Tsukuba city map and land use data.

4. Results

Analog public telephones are distributed evenly in comparison with digital public telephones. But digital public telephones, which are related to international calling service, are concentrated on the Tsukuba center. Therefore, most of the analog public telephones are distributed in public, commercial and residential districts equally. In addition, the majority of digital public telephones are concentrated on public districts and commercial districts. The main reasons are that the general public consumes analog public telephones.

On the other hand, there are a lot of potential customers to use international calling in the Tsukuba center. Next, most of the public telephones for those using wheelchairs are distributed in the Tsukuba center. Therefore, many public telephones for those using wheelchairs are distributed in commercial and public districts. Generally, public telephones for those using wheelchairs follow the special rule that public telephone booths equipped for wheelchair access are mainly available at welfare facilities, parks and so forth.

5. Conclusion

To reveal detailed locational characteristics of public telephones in Tsukuba, it is necessary to get more and detailed data and assess through correlation using social indexes, population data included. Two problems remain to be explored.



<Figure> The distribution of public telephones in Tsukuba city by each research item

(left: digital or analog, middle: digital or analog applied to land use, right: for the disabled or not applied to land use)