

# Assess the Spatial Distribution Pattern Tactile Track of University of Tsukuba in Viewpoint of Social Welfare for Blind and Visually Impaired People

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## 1. Motivation

Higher studies are important for everyone. Physical disabilities should not be obstacles to the person who is wish to join to the higher studies. Hence, higher studies institution has made several approaches to cater to the blind and visually impaired people for entering to the studies. University of Tsukuba also made it in perfect way.

## 2. Objective

Finding way is a significant task for individuals engaged in daily activities. Finding a correct path with spatial cognition is one of major issues of the blind and visually impaired people. Government and other organizations have been making several approaches to overcome the above obstacles in social welfare viewpoint. Preparation of Tactile Track (TT) along or parallel to the access path is one of the approach which is most common across the world. University of Tsukuba has attempted to the above approach and as a result of this, TT can be seen not only university premises but also dormitory and other public places.

The primary objective of this study is to assess the spatial distribution pattern of the TTs of the university premises of University of Tsukuba and dormitory area. Secondary objectives are (i) to map of TTs on university premises and dormitory area, (ii) to compute the density of the TTs and assess the less density area

## 3. Study area

Central and South area were selected in order to cover the main campus area while covering the North and West of the dormitory area.

## 4. Methodology

Both primary and secondary data were collected. As primary data, GPS was used to track the TTs of the study area and filed observation were conducted to understanding general condition. Secondary data were collected through the (i) student welfare office, (ii) online and paper materials and, (iii) campus GIS spatial data. Density analysis was conducted to identify high density TTs area and important places were used to understand proximity to them.

## 5. Results and Discussion

Total length of the TTs is 7.95km and they have distributed overt the campus area in order to cover the important places which are necessary for the blind and visually impaired people.

Results of the density map shows that high and medium density area were accumulated to the Central and South area compared the other area. Availability of common resources and class rooms may be reason for this one. Among them, the highest density is observed in front of the central library.

It was observed that there are different kinds of TTs which can be categorize based on materials and color. In view point of materials, it can be seen cement and metals. Cements TTs are usually placed on outside of the building while metals are inside the buildings. Three colors were identified including yellow, silver and dark brown. Among them, yellow is outside and other two was observed inside of the buildings.

Welfare office has provided separated dormitory facilities for the blind and visually impaired people with convenient rates. However, it is not mandatory to select those dormitory, if they wish they can select others also but TTs not provided.

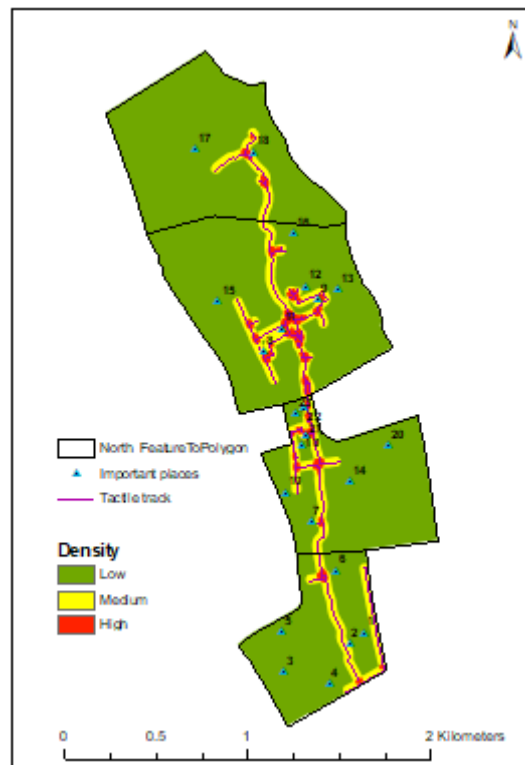


Figure 1 – Distribution pattern of the TTs and its density  
It can be seen welfare facilities of the university of Tsukuba for the blind and visually impaired people is convenient. TTs is facilitated to access major important places.