

# Mapping & characterizing the parking lots in the Tsukuba central area

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## 1. Objectives

Field work provided detailed information of parking lots for users, particularly for the visitors who are not familiar with a Tsukuba center area and parking locations, who do not have direct access, and who intend to stay for a short period of time only and need to use parking. It also can help to the accessibility and utility of all the parking lots, which may also help in maintaining the good traffic condition of the city center.

## 2. Introduction

Parking lots often focuses on the central area of an urban in particular areas of high retail and employment activity. Parking lots have a direct impact on the transport and land use system within the urban area. Not only transport and land use planners focus on parking as a trip end or as a need to provide parking to service a land use, but also residence and visitors also focus on parking. Parking however, influences the spatial distribution of transport use and the viability of developing. This field work did Mapping & characterizing the parking lots order to obtain an indication of the spatial variations .

## 3. Methodology

Data collector done with GPS, used to determine the geographical locations of public parking lots at Tsukuba center area. These geographical locations, which include the X & Y coordinates created a shape file of

parking lots and the shape file added to into the GIS software (ArcGIS 10.2) as point data. These point data or on the other hand, this shape file, represent the exact location of parking lots and characterized by attribute data during the field work and data collection. These attributes, data include the capacity of parking (regular and disabilities), price (price for one hour and for 24 hours), payment type (Cash or Credit card) and name.

## 4. Results and Discussion

Figures 1, 2 and 3 present the spatial distribution of tracks and parking locations by capacity, and name in Tsukuba City Center. A total of 17 points (with a total capacity of 6012 parking spaces), representing the geographic locations of the parking at the Tsukuba City Center Area was collected. Generally, parking lots at the Tsukuba City Center are located near the department stores, offices, medical facilities. These distributions caused by the needs of the employees and visitors. Mapping and characterizing parking lots provide more detailed information to both the existing and potential users. This provided information useful most especially for the visitors who don't have enough information about the Tsukuba City center area and who do not have direct access, and who intend to stay for a short period of time and need public parking lots. It also helps the traffic condition, save time and money. This field work has been done by capacity, price, space for people with disabilities and payment time. The database also includes other attribute data, such as special discount, work's hours, etc.



Fig 1: Spatial distribution of track and parking lots

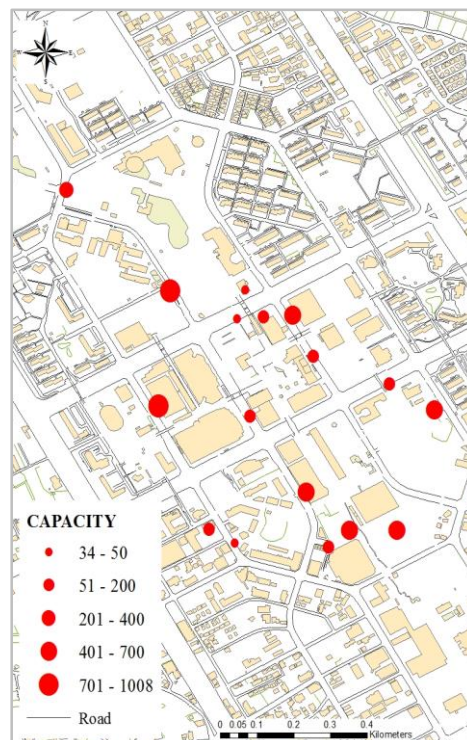


Fig 2: Spatial distribution of parking lots by capacity

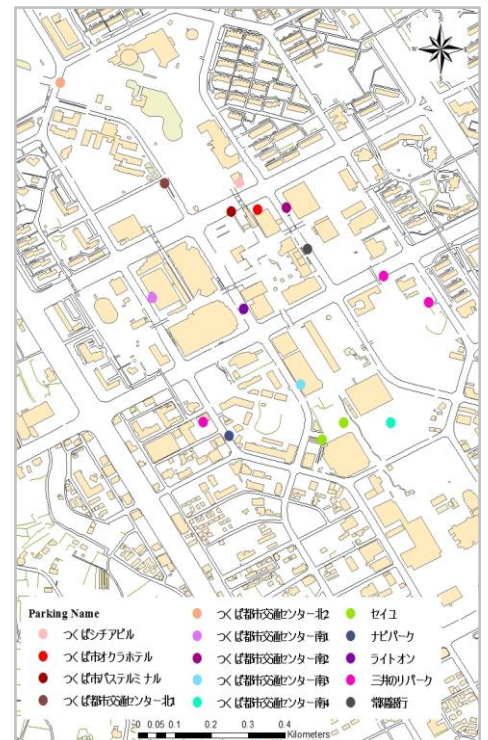


Fig 3: Spatial distribution of parking lots by name