

Investigation on Space Demand for Bicycle Parking Lots in the University Student Dormitories

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1.Introduction

Total student population of the university is 16,000. About 80 per cent of the university students have registered their bicycles (university student plaza data) and about 2,600 students live in student dormitories. The assessment of this topic will assist for future bicycle lots allocation decision making process of the university administration.

Allocation of space for different activities in the university premises is a prime task. Indeed, Proper allocation of Vehicle parking lots especially, bicycle parking lots are essential, because the bicycle is the prime medium of transportation inside the university of Tsukuba.

2.Study Area

In this investigation ,it is expected to select Ichinoya dormitory area, Hirasuna dormitory area, Oikoshi dormitory area and Kasuga dormitory area as the study area. As well as to use student population in each area, building wise.Objective of this study is to identify spatial variation of demand for the space of bicycle parking lots.

3.Methodology

Both primary data and secondary data were collected in this study. Place identification was done using Survey 123 for Arc GIS software. Building map of the Campus GIS has been used as the base map. (Fig.1) Criteria defined were no. of bicycle owned students, space availability for parking, and outside parked bicycles. Evaluation will be done according to the student plaza data and Survey 123 data with field

experience. Students information were collected from the university records.GIS software was used to analyze data.



4.Results and Discussion

Total bicycles owned students reside in the university dormitory is 2080. Single rooms 65 buildings, 13 twin rooms and 6 family type dormitories were considered to the analysis respectively. According to the results 88% of total bicycle owned students' demand for bicycle parking spaces. 8% of equal demand and supply was recognized. As well as the supply of space for the parking space was greater than that of demand was 8%. Nurses' residence no.3 is the most congested parking lot of the university dormitories. R^2 Value for the co-relation analysis was in high level as 0.8441. (Fig.2) This reveals that these components have strong relationship between each other.

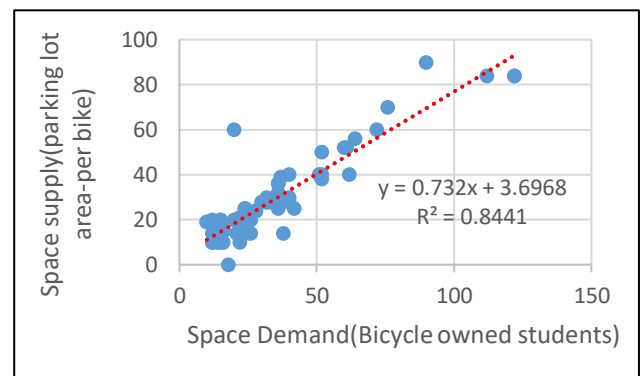
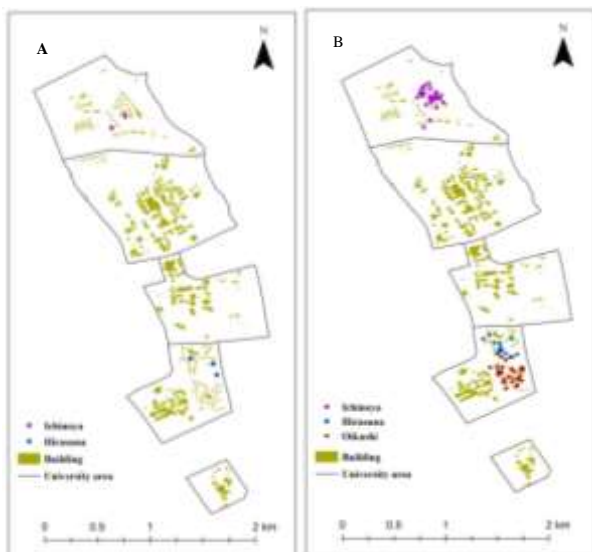


Fig.2 Relationship between demand and supply.

Fig1. A: d=s B: d>s C: d<s