

Student's Perspective for Campus Transportation Planning by AHP Case Study of Khon Kaen University, Thailand

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Abstract: The transportation planning on campus design of Khon Kaen University (hereinafter called "KKU") has implemented for more improvement toward safety and comfortability. A lot of traffic volume by private vehicles and motorcycles was identified as a cause of traffic jam, traffic accidents and occupation by parked vehicles. On the other hand, most students of KKU think they want to use motorcycle and car. To meet both factors, it is necessary to clarify how students think about transportation to move in campus by AHP. According to these researches, we could reveal student's perspectives and problems of public transportation in KKU.

1. Introduction

International Urban Planning Team is researching and suggesting to make some town in a developing country better using the things learning in classes.

Target area of this research is KKU. KKU students are using private vehicles to go to university and move in campus. Moreover, a lot of local resident use road in KKU. They are a lot of traffic volume by these in KKU. Traffic jam and traffic accidents are caused by them. KKU students think they are needed to solve, but they think they want to keep to use private vehicles. Therefore, we studied how KKU students think about transportation to move in campus to know KKU student's perspective and problems of public transportation in campus.

2. Questionnaire Surveys for AHP

In this research, the AHP was applied as a method to know how students think about transportation to move in campus. The hierarchical structure of AHP is shown in Figure 1.

On the first level is the overall goal of *Transportation to move in campus*. On the second level, there are four evaluation criteria that contribute to the goal and on the third level, there are four alternatives transportation which are used by the most students to go to school and move in campus.

The summary of the questionnaire survey is shown in Table 1. With the cooperation of 15 students and 3 Takushoku University students who joined the collaborative workshop with our university, the questionnaire survey was conducted at lunch time.

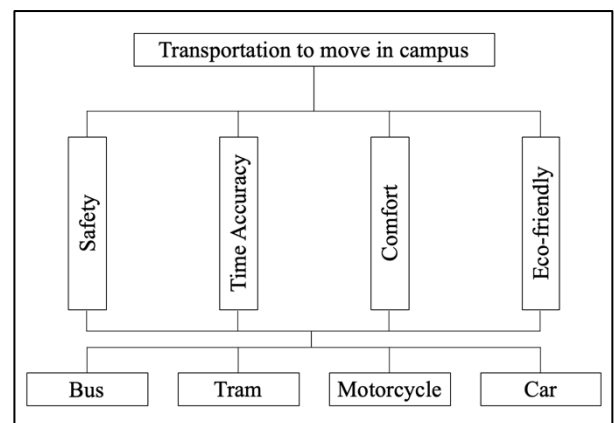


Figure 1. AHP structuring

Table 1. Summary of Questionnaire Survey

Date	September 2, 2019
Time	12:15~13:30
Samples	305
Targets	Khon Kaen University students
Contents	Paired comparison based on Figure 1

3. Results

3-1. Weight of Evaluation Criteria

Results of calculating the weight of evaluation criteria are shown in Figure 2. According to Figure 2, KKU students think the safety is the most important criteria to move in campus.

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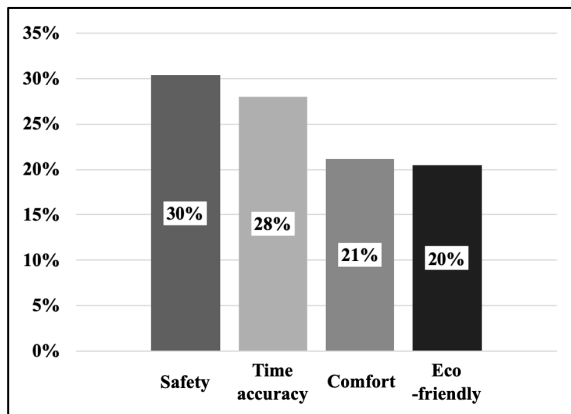


Figure 2. Weight of Evaluation Criteria

3-2. Comprehensive Evaluation

Results of calculating comprehensive evaluation of candidates are shown in Figure 3.

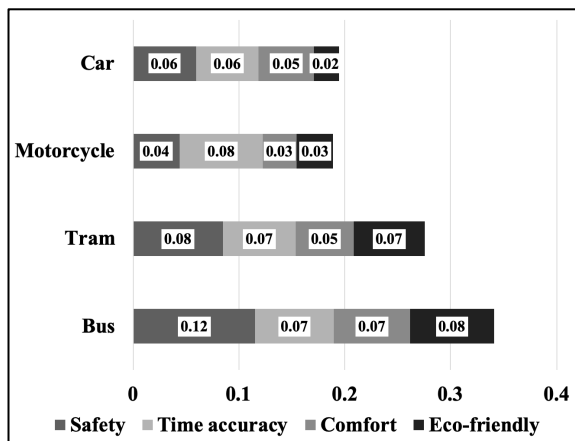


Figure 3. Comprehensive Evaluation

According to Figure3, the bus is the most suitable transportation for students and the tram is the second. Through these results, we could know public transportation is suitable for students. But students are actually not using public transportation now. To know reason why public transportations are not used, we discussed with students.

3-3. Results of Discussions

According to students, problems of public transportation in Khon Kaen University are:

1. Buses are very crowded.

In peak time, many students use the bus. So, students who cannot get on the bus use private vehicles.

2. Not accurate in Time

The bus in KKU is often delayed and timetable is not published.

3. Dangerous drivers exist.

Some drivers drive the bus too fast.

4. The bus runs only in campus.

About 80% students live in away from the campus and public transportations between their home and campus isn't operated. So, they have to use private vehicles to go to University.

4. Conclusion

According to results of a questionnaire, the bus is the suitable for KKU students and the best in the most of criteria, but the time accuracy of bus is not relatively higher than the other modes although KKU students think time accuracy is the second most important in the four criteria. Moreover, the students who joined the WS also recognized same perspective through the discussion of the AHP result. Therefore, it was concluded that time accuracy is one of the most important problems on public transportation in Khon Kaen University.

Furthermore, we will consider how to solve these problems and we are planning to conduct a same questionnaire to Japanese to find a solution of public transportation in Khon Kaen. We will think campus design based on the opinions of local students. Because our objective is to improve not only transportation but also whole of campus.

5. References

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