CHAPTER 5

CONCLUSION

The content within this chapter is divided into four parts. The result of study is firstly summarized. Limitations of the study are described in the second part. The third part mentions to policy implication. Then the last part provides recommendations for further study.

5.1 Summary of Findings

Past transportation policies indicated that Thai government is biased to promote private transport rather than improve public transport. A lot of the budget is spent on the construction of highways, and motorways. Unintentionally, it induced mode split behavior, causing people to switch to commute by their own car for daily life conveniences which latter dispersed residential location. Even though the Thai government paid attention and planned to improve public transport in the 5th National Economic and Social Development Plan, it never achieved this. Until now, traffic crisis have be attributed to the increase in car-dependency in Bangkok. Therefore the availability of the BTS in December, 1999 and MRT in July, 2004 have been quite interesting to urbanites.

It leads to objectives of this study which consider whether rapid rail transit can influence residential location patterns in Bangkok, and if it is which income groups are more likely to obtain its effect. The study employs data set from two periods, before and after the rapid rail transit became available (in 1998 and 2004). Attempting to provide more precisely the effect of rapid rail transit using a comparative static approach, reversed multinomial logit model applied from hedonic price is used in this study. The model allows us to adopt LeRoy and Sonstelie (1983) concept that the alternative transit has interesting effects on residential location changes. Furthermore, as the model deals with bid-rent function rather than utility function, it can easily investigate the effects of rapid rail transit on the residential location among different income groups.

The empirical results support that time saving advantages from using automobiles induces rich households to move outward, while rapid rail transit also plays a role on residential location pattern in Bangkok that push households, whose monthly income is greater than 15,000 Baht, out of the city center if compared to the initial bus transit. However, when compare to automobile, rapid rail transit has an effect on residential location on households whose monthly income is 5,000-15,000 Baht, as changing in bid-rent gradient's sign with and without the alternative rapid rail transit. Nevertheless quite low level of significance of differences in bid-rent gradients between the richer and the poorer, when only the richer adopt the new alternative rapid rail transit, might be caused by non-ubiquitous transit network. It raises the access cost in calculating the break-even distance and this leads to the disappearance of the second variable which reduced the significant influence of the rapid rail transit on residential location pattern. Other reasons might be referred to previous studies in that the influence of rapid rail transit can be better explained residential pattern changes; it also depends on household's characteristics such as age, education level, family size, family composition, and life style.

In conclusion, although the new alternative rapid rail transit cannot yield significant influence on residential choice of all over income groups. It tends to lead the middle income household change its residential location. The middle income group who makes a decision on transit choice may choose rapid rail transit over the automobile since it also provides time cost saving and creates less monetary cost, particularly for those who initially commuted by bus transit. Simultaneously, rapid rail transit can influences residential location pattern in Bangkok changes, since faster transit gives the household a chance to occupy a bigger house, cheaper land, and better environment in farther areas. Changing in this direction seems to be appropriate during the period of traffic crisis as a huge car dependency in Bangkok. However the empirical result indicates that the influence of rapid rail transit is obstructed by its non-ubiquitous network. Therefore rapid rail network expansion is needed with concerning its consequence as residential location of household living in Bangkok change, in order to affirm that it will contribute to more balance of city growth.

5.2 Policy Implication

Empirical results of this study indicate that transport innovation can affect residential location patterns in Bangkok. Commuting by automobiles provide time cost saving which tends to persuade the rich to commute farther and live in a more distant area. But commuting by rapid rail transit does not yield obvious advantage. When compare rapid rail transit to bus transit, it gives the rich an advantage in more distant areas as time cost saving. The result indicates that households whose monthly income greater that 15,000 Baht are more likely to switch from bus to rapid rail transit and tend to locate on a more distant area. However, only households whose monthly income is 5,000-15,000 Baht are more likely to switch from automobile to rapid rail transit and tend to live in farther areas. The non-ubiquitous rapid rail transit network seems to obstruct mode switching and reduces the significant effect of rapid rail transit on residential location pattern changes. Thus it implies that rapid rail network should be extended. However, it is not necessary to extend rapid rail network throughout the city, since it requires a huge investment budget. Thus providing connected points from rapid rail transit to any other transport modes more convenience may induce more rapid rail users and also reduce population density in city center by persuade them locate on a more distant area. Furthermore, the traffic congestion can be alleviated by induce using of rapid rail transit targeted toward the middle income group which may reduce car dependency and can also yield decentralization of them.

5.3 Limitation of the Study

1.) This study is based on bimodal-choice of transit which considered a pair of competing mode choices. Therefore setting a technical assumption is needed which assumes that residents who initially commuted by bus are mutually excluded from those who initially commute by automobile when concerned with the effect of the alternative rapid rail transit in 2004. This specific assumption does not allow us to interpret the influence of all transport modes simultaneously. Although the estimated results can be compared across periods and across case of studies, comparison between different case studies must be carefully considered.

2.) As there was a lack of data on individual residential location, Euclidean distance and break-even distance is measured in terms of group data. Representative households for each location with different income levels are set. Therefore, the result should be interpreted in terms of representative households for each income group rather than individual households.

3.) Further, estimated result of the specific model used in this study can be explained as to whether the availability of the alternative transits (such as automobile in 1998 and the 1st case in 2004, and rapid rail transit in 2nd case and 3rd case in 2004) affect residential location patterns. Nevertheless, the result cannot identify exactly the distance where residential location among different income groups change, although only position of each income group compare to the reference group can be concerned.

5.4 Recommendation for Further Study

Actually, multi-commuting mode is a specific characteristic of transportation in Bangkok. People are subjected to more than one mode of transport in their daily commuting for working trip. Thus, non-discrete choice of transit should be considered. Although considering bimodal choice of transit between competing modes can be explained residential location pattern changes in Bangkok, to provide better comprehensive picture of residential location in Bangkok, multi-modal choices of transits should be investigated further. However, the influence of highway and elevated roadways also affects commuting cost of automobile user. It may obstruct the fascinating effect of rapid rail transit to persuade automobile users to switch their transport mode. Therefore considering the competition between rapid rail transit system and highway network may yield interesting results. Further the changing of residential location pattern in Bangkok would be better complete if consider individual's characteristic factors such as age, education level, family size, family composition, and life style.