

# 應用計程車衛星定位資料庫分析新竹市計程車路線選擇

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## 摘要

This study combined questionnaire survey data and Hsinchu City ITS taxi Global Positioning System (GPS) database to analyze taxi route choice. Eleven important GIS landmarks in Hsinchu area are chosen to define twenty five ODs (Original and Destination). Seventy-six taxi drivers were surveyed and all their traveling routes of twenty-five ODs were analyzed from the ITS taxi GPS database. While taxi drivers traveling the fourteen OD-routes are all the same with the corridor highway network restrictions in Hsinchu urban area, however, seventy-six taxi drivers traveling the other eleven OD routes are quite different. According to these routes from GPS taxi database, four route choice subjects are studied. The results show that taxi drivers who choose the routes take into account individual preferences, weather and traveling time periods. In addition, questionnaire analysis results show that the most three influencing taxi drivers route choice behavior factors are the off-peak hour, the traffic congestion interference and the weather conditions. Consequently, taxi drivers are grouped into Single-route group and Multi-route group by their the route choice behavior. Single-route group drivers take more account of four non-time-varied factors, level of traffic speed limit, Speed camera, the number of signals and waiting time and accident frequency, than Multi-route group drivers. Nevertheless, Multi-route group drivers take more account of four time-varied factors, size of the crowds along the road, the number of businesses along the route, weather, and off-peak hour, than Single-route group drivers.

**關鍵字** : Route Choice, ITS Taxi System, Geographic Information System, Global Positioning System