

A Review on Taxi Service in the City Centre: Comparative Study between Kota Kinabalu (KK) and Changsha City Centre

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Abstract- *Taxi as an effective transport system will reduce traffic congestion, as well as greenhouse gas emissions. The purpose of this study is to compare and analyse the taxi operation systems of Changsha and Kota Kinabalu (KK), Sabah and point out the differences between them. Through the research of the current taxi service system, this paper summarises the advantages and disadvantages of Changsha and Sabah taxi operation and development, draws lessons from each other's advanced operation mode of the service system, and promotes the perfection of the taxi system of the two places. This paper puts forward some suggestions for the development of taxi in the two regions, in order to lay a solid foundation for the further improvement of taxis as public transport.*

Indexed Terms- *Taxi, Changsha, Kota Kinabalu, Public Transportation*

I. INTRODUCTION

Changsha is a national comprehensive transportation hub in China, one of the most critical central cities in central China, and a critical high-speed rail and aviation hub in southern China. Land, water and air traffic are super advanced. Sabah traffic is in a stage of rapid development, the most common way to move from a place to another is travelling by bus, but there are still some places reachable only by boat or taxi. Public transport is one of the most widely used modes of transportation all over the world. Public transport is defined as a means of transport or the provision of transport services to the public, which provides continuous general or special transport to

the public, usually rail transit, ferries, buses and taxis [1][2].

At present, traffic congestion has become a critical problem for developing countries because it tends to increase travel costs and time, energy consumption and social costs of environmental degradation. Also, public buses are considered uncomfortable, less physically attractive, lacking in punctuality and unsafe. Therefore, as an essential means of public transport, taxis can constructively solve this problem. Taxi, as a vital part of urban public transport, has become one of the essential traffic modes that affect the planning and management of urban road traffic because of its "door to door" transport characteristic of moving passengers from one place to another.

Taxi is a car for temporary employment, mostly by mileage or time. Taxis usually carry only four seats, some with three or five seats. Other than hailing a taxi by hand, reservations can be made via telephone calls, Internet, and mobile applications. In the past, taxi was widely welcomed by people as a convenient means of public transport. However, due to the immutable management service mode of taxi companies, the development of Internet technology has brought about the prevalence of online car-hailing all over the world, and its market is gradually taken over by online car-hailing, which has a significant impact on the business and profit of the traditional taxi industry [4]. Unlike popular American ride apps, such as Uber and Lyft, Chinese and Sabah ride apps offer not only private ride services, but also online taxi services [5]. However, the price of a taxi is higher than that of a private car, and taxi also has

some shortcomings, such as unclean vehicle environment, old aged vehicle and poor comfort.

Although the taxi has many service shortcomings, it plays an essential role in urban public transport. It also has some advantages, such as the ride fare which is only related to the distance between the two places, and will not increase the delay cost because of traffic jams. Taxis are managed and operated by taxi companies, so taxis also have a higher security system than online car-hailing. For some foreign passengers, when they come to a new city, the first impression of the city often comes from taxis. Therefore, it is vital to standardise taxi operations and improve service quality.

II. PROBLEM STATEMENT

A. Restriction of Public Transportation

China and Malaysia are both developing countries, but both of them have been recognised as having relatively good transport systems, especially their road networks. However, since most public transport, such as buses, are restricted by routes and geographical conditions, its accessibility limited to certain areas, and people have to walk or go to bus stops to use public transport, it is not convenient enough for passengers to travel. On the other hand, the taxi, car or vehicle will pick the user at the pick-up point set by the user and drop them off at the designated destination, which effectively makes up for the lack of bus accessibility.

B. Convenience of Transportation Mode

For people with stable jobs and incomes, they still rely more on taxis. For most people, they prefer to spend most of their time at work and entertainment and are less likely to give up this convenient and comfortable way to travel. Moreover, taxi happens to have this characteristic, ie: more free time, independent route, and a high degree of transportation convenience.

C. Unfamiliar Routes

Tourists traveling around a city which they are unfamiliar with, will feel confused about the complex traffic network. On the contrary, local taxi drivers undergo regular training to gain their taxi license and years of driving around town. They have a

comprehensive understanding of the layout of city streets. Therefore, taking a taxi would be the best option.

III. TAXI AS AN ALTERNATIVE

A. Time Saving

Taxi drivers know their respective cities inside and out as they roam the streets full-time. Taxi drivers who understand traffic jams and road closures will choose the most efficient route to reach their destination. Riding a taxi can ease the burden of driving and dealing with these potential obstacles, especially in an unfamiliar city.

Taxis can meet the travel needs of passengers who want less walking, less travel time, and fewer transfers. Travellers will be dropped off at their desired location, without going outside and waiting at the bus stop for a bus which runs under approved routing, schedules and stopping places. The taxi driver may be aware of the short cuts and parallel roads to make their passengers reach the place on time.

B. Convenience

Taxi can relieve the pressure of conveying urban bus passenger flow; at the same time, it can effectively make up for the lack of bus accessibility. It can meet the requirements of passengers who afford to pay for valuable time and comfort, and provide a higher standard of passenger transport services. As a part of the tertiary industry, the taxi industry has created a significant number of employment opportunities for the urban transportation system and creating direct or indirect economic benefits. In a taxi, there is the flexibility to choose a travel route, while public transport follows pre-planned routes that may not precisely match the end destination.

Taxi service is characterised by the geometric progression of large and medium capacity bus stops, which can be almost summarised by "anytime, anywhere", and is not limited by the path, and its convenience is also the geometric progression of large and medium capacity public transport. If the taxi call service (telephone reservation service) is taken into account, its convenience will be significantly improved. Also, taxis are in the form of

random supply, the lines, stations, and time they supply are not fixed, the characteristic is that they can achieve road-to-door, and even door-to-door service, there is no inconvenience of planning supply. In this feature, Changsha and Sabah taxis are consistent.

C. Privacy

Mass transit systems such as buses and subways aim to convey a large number of people efficiently. However, they do not provide privacy for their passengers. However, within the compartment of a taxi, phone calls or text messages can be made without worrying that someone is eavesdropping or peeking.

D. Safety

Passenger vehicles are commonly used in taxis, the requirements for road conditions are not high, as long as the place is accessible by car, it is reachable by taxi. Professional drivers provide services and require training to qualify for operations. Not only that, taxis has corresponding taxi companies, so the economy, property and personal safety of passengers are guaranteed.

Each taxi in Changsha, China, is equipped with a taxi service supervision card with the driver's name, license plate number, service unit, and supervisory telephone number. When passengers encounter trouble during the ride, they can call the supervisory phone hotline to resolve the complaint.

To improve taxi services in Malaysia, Land Public Transport Commission (SPAD) launched an app called Meter On. Passengers can use the app to authenticate drivers, read and provide feedback about taxi trips.

Therefore, the investigation found that taxis in both regions have taken corresponding measures in passenger safety. The comparison found that the two methods can be combined and applied to taxis.

IV. URBAN TAXI ISSUES

A. Higher Price

Since taxis became popular, they have been an essential part of urban traffic, and take the central position. Although the transportation cost is much

higher than that of the city bus, due to the flexibility of taxis, people can accept the high cost of taxis. In recent years, due to the rise of e-hailing services, taxi charges are more expensive than online car-hailing. In addition, some drivers do not turn on the meter, overcharge fares on the passengers, especially targeting foreign tourists. These shortcomings put taxi service in a difficult situation.

The taxi charging method in Changsha, China, is 8 yuan for the base price within 2 kilometres during the day, and 2 yuan per licenses are still issued [6].

Comparing Changsha's and Sabah's taxis, it is found that KK's taxis are more expensive than Changsha taxis (Fig. 1), mainly due to the smaller number of taxis and the less competition in KK. Because of its relatively low level of sharing, both space resources and the economic cost are uneconomical, and polluting compared with the large and medium capacity buses.

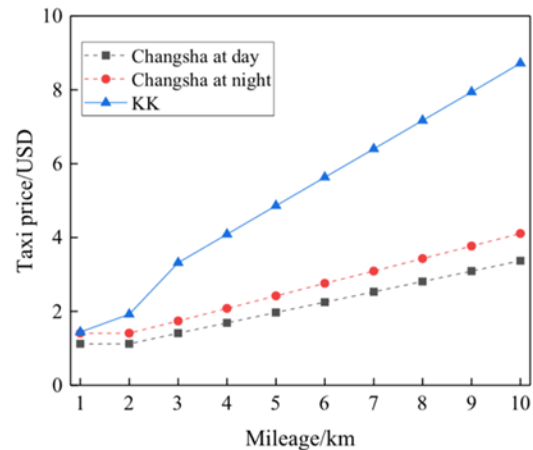


Fig 1. Comparison of Changsha and Kota Kinabalu Taxi Fares

A. Quality of Service and Travel Environment

From the Chinese taxi system, each taxi will have two people in charge in two periods of the day, commonly known as "two shifts." The result of this situation is that the driver does not have a strong sense of responsibility and will not care too much for the vehicle, resulting in reduced internal environment and deterioration of the overall condition of the vehicle. Compared with the e-hailing which employs private cars, the e-hailing driver loves his vehicle more, so that the interior environment of the car is cleaner and tidy.

Compared with the e-hailing car, the taxi is less maintained and not obliged to use the most recent car models, so the comfort of the taxi is lower. For safety reasons, the Chinese state stipulates that the compulsory scrapping life of a general taxi is eight years. Depending on the model of the taxi, the application of the retirement period may be slightly different, but generally, it cannot exceed ten years. In Sabah, taxis do not implement compulsory scrapping regulations, as long as they can still work, they can continue to be used. Old vehicles are prone to safety problems, and the personal safety of passengers cannot be guaranteed.

B. Regional

Taxis have regional characteristics. Taxis are concentrated in highly populated, randomly mobile areas with distinct regional characteristics. In the sparsely populated suburbs, passenger cars availability is not guaranteed.

After investigating the taxi system of Changsha City and Kota Kinabalu, we found that there are similarities between the two cities. Take the city of Kota Kinabalu as an example. Our survey shows that taxis are generally concentrated in shopping malls and nearby scenic spots in the city, such as Imago Mall, Suria Sabah Mall, City Mall. At the same time, airports, docks and other places you will also find taxis (Fig. 2) to facilitate the traffic of foreign tourists. In other areas, it will be relatively rare. In this matter, Changsha and Kota Kinabalu have a thing in common (Fig. 3).



Fig 2. Taxis Waiting outside Sabah Federal Government Administrative Complex



Fig 3. Taxi lined up outside the Changsha high-speed railway station



From the historical aspect, the taxis in Sabah and China differ. Chinese taxis originated in Guangzhou in 1979, while e-hailing rose around 2015, so Chinese taxis have a unique historical status. Although e-hailing is convenient, it is difficult to shake the status of taxis in the short term. However, Malaysia's e-hailing and taxi started later, and the online taxi, beginning from Uber to Grab, is becoming more and more convenient, which makes the number of online taxis grow, while the number of regular taxis in Kota Kinabalu is dwindling, and in the end, taxis are limited in the crowded town areas. This is also a point where the Sabah taxi system differs from China in the regional character.

V. RECOMMENDATION

Taxi licenses are recommended to be delivered to bus companies for operation, avoiding vicious

competition between urban passenger transport systems. In addition, the income generated can also make up for the public welfare losses of the bus companies, and indirectly ensure the virtuous circle and sustainable development of urban passenger transport system.

At present, all the major cities in China are paying close attention to the business environment, and when foreign guests arrive in a city from the airport, high-speed railway station, bus station and other transportation hubs, the first impression of the city often comes from taxis. Whether they refuse to load, pool passengers or deliver poor quality service, each has an impact on the image of the city and the business environment. However, at the same time, the taxi industry shows the characteristics of a long-standing cycle of chaos. In order to manage the taxi industry well, it is difficult to rely on "people and statistics". It is necessary to comprehensively implement policies in supervision, system, and industry security, in order to improve the overall service quality from the root causes and make taxis become business cards to display the image of the city. At this point, it can be applied to the management of Sabah taxis.

Given the problems of old taxi vehicle, poor car environment and passenger discomfort, it is suggested that taxi companies should strengthen vehicle management, timely maintenance, and replace the ageing cars in order to ensure driving safety and improve ride comfort.

In order to improve the service level and service quality of taxi drivers, the evaluation of each trip should be carried out by using the customer evaluation mechanism of online car-hailing for reference. Taxi companies should regularly evaluate taxi drivers and offer corresponding rewards and reprimands.

VI. CONCLUSION

By comparing and analysing the taxi system and its characteristics of Changsha and KK, the main results are as follows:

1) By summarising the current public transport system of Changsha and KK, we found that the

public transport system in China is more sophisticated than that of KK. The travel mode of KK is simple and the number of taxis is insufficient; meanwhile the bus line is quite limited. At present, the primary travel mode is online car-hailing and private car.

- 2) By comparing the internal condition of the taxis in China and KK, We found that Chinese taxi drivers have worse driving habits, such as smoking and dressing inappropriately. Moreover, the hygienic condition of the passenger cabin is poorer than that of KK.
- 3) Comparing the taxi characteristics of Changsha and KK, it shows that the two have the same advantages in saving time, travelling convenience, good privacy, and better safety. However, there are many differences in price, service quality, and geographical restrictions.
- 4) By investigating the present situation of the taxi market in the two regions, it is discovered that the online car-hailing market has impacted the taxi market. How to balance the relationship between the two and avoid vicious competition is the leading research direction at present.

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