Overview of the singapore public transportation system construction essay

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The 1996 White Paper on A World Class Land Transport System has been a guideline for the development of Singapore public transportation over the past decade . It has delivered a land transport system that has served Singaporeans well. In order for Singapore to be a thriving nation its public transportation infrastructure must be stable. Over the next 10 to15years, the transport system must sustain economic growth, population growth, higher demands and more flexible lifestyles.

By 2020, travel demand from public transport would be expected to raise from the current 8. 9million journeys daily to close to 14. 3million journeys daily. Since Singapore is rather a small country, travel demand is hugely depended on public transportation as it is the most space-efficient and environmentally friendly mode of travelling.

History of Singapore Public transport

Bus and urban trains have served as Singapore public transportation ever since the beginning of the twentieth century. The operations of the electric tram in the city area started in 1905 during the colonialism in Singapore.

Following the formation of the Singapore Traction company in 1925, electric trams were replaced by the trolley bus.

Due to the operational difficulties, poor management and labour fatigue, the services of STC and the Chinese bus companies were disrupted by 1955.

In 1956, the eleven bus companies have been advised by the Hawkins Report to merge into one single undertaking, a nationalized government-run company or a statutory limited liability company, financed partly by government and partly by private investment. However, there was no subsequent follow up done on the recommendations.

After independence from Britain in 1965, the government engaged in a massive urban renewal program for the city which involves slums removal in the public housing and road development to enhance accessibility. Unfortunately, the operations of the bus services could not keep up with these developments.

In 1971, the ten Chinese bus companies combine into three large ones with the STC being left intact following the publication of a Government White paper on the reorganization of buses. The government noticed that things had not improved and decided to intervene. This resulted in the formation of a single company, Singapore Bus Services (SBS) in 1973. In 1982, the second bus company, Trans Island Bus Service (TIBS) was formed to promote competition and benchmarking in the bus industry.

The first urban trains operated by a newly formed Singapore Mass Rapid Transit (SMRT) Corporation started running by 1987. In 2001, the concept of

multi-modal operation of bus and train services was being introduced. SMRT Corporation became the first multi-modal operator after acquiring TIBS to form SMRT Buses Ltd which became a sister company of SMRT Trains Ltd.

In 2003, SBS renamed itself as SBS Transit Ltd and started running train services. In 1983, works on the first urban rail system (known as Mass Rapid Transit System) started and was running by 1987. Running of North South and East West Lines was appointed to SMRT Corporation, which run underground within the city and on overhead viaducts elsewhere, with total length of 90km and consisted of 49 stations.

In June 2003, the underground driverless North East Line (NEL), with total length of 20km and consisted of 16 stations, was opened and SBS Transit was appointed to fully run the service. Commuters can transfer among the three lines at the four major train interchange stations, which connect the central business district, major new towns, industrial estates, the port and the airport.

Strategy use to encourage Public transport usage

After independence in 1965, land scare Singapore needed a sound long term plan to adapt to its growing economy, thus they introduced the pull-push transport strategy to encourage public transport usage. During the period of 1967 to 1971, the state and City Planning Study developed the Singapore Concept plan for the physical development of the island. The study concluded that it would be environmentally intolerable and physically unachievable to build enough roads to meet the widespread rate of growth in cars; and that buses alone would not be able to meet future public transport

needs. These findings has arisen an overall transportation strategy that aims to sustain acceptable balance between the use of private and public transport. It focuses to improve and encourage the use of public transport while restraining the extensive use of the private car demand by the management. In Singapore, the average car occupancy is 1. 7 while the bus can accommodate between 85 and 143 and the six-carriage train is 1800. Not only public transport is an efficient mover of people, it is also an efficient energy user. Constructive measured were taken in improving the public transport such as constructing new urban train systems and also improving the bus services. This was continued intensively since the mid-1970s till now. Demand management measures have largely targeted private cars, which have always accounted for slightly more than half of the total vehicle population. Since 1972, measures were implemented to restraint vehicle ownership by imposing high upfront vehicle taxes and the use of the certificate of entitlement. The “ pull” and the “ push” factor which is encouraging greater use of public transport to improve public transport services and restraining the widespread use of private transport, has resulted in a remarkable shift towards the use of public transport. Today, three out of five daily trips are being made on public transport as compared to two out of five in the mid-1970s. Such significant shift could likely be due to the improvement of public transportation.

To further encourage Singaporean to use the public transport, link ways and pedestrian overhead bridges are built. This is to provide the pedestrian with accessibility and route. Also, buses will be given priority on road. Plans are

underway to build fully integrated transport hubs where bus interchanges and RTS stations are co-located with retail and commercial activities.

To provide convenience for commuters to plan their journeys, real time public transport travel information will be available through various mobile platforms. Platform screen doors will also be installed at above-ground MRT stations to improve the safety of commuters and minimize inconvenience caused by service disruptions.

By 2009, LTA has already improved average bus speeds from 16kph to20kph for feeder buses and from 19kph to 25kph for trunk buses. In June 2008, there was an increase on the network of bus lanes from 120km to 150km, and treble full day bus lanes (FDBL) from 7. 6km to 23km.

It is mandatory for motorists to give way so that buses can come out of the bus bay without delay, and buses will enjoy signal priority over other vehicles at major junctions in the city. This will also improve the reliability of the bus travel as buses enjoy right of way on the roads. With these measures, commuters can look forward to a speedier and smoother ride on the bus.

Future plans of LTA

The Rapid transit system RTS will remain the backbone of public transport system given its higher capacity, greater reliability and speed. The Government has spent over $13 billion to build up the existing 138km of rail Network. Another $20 billion has been committed (for Circle Line, Downtown Line and the Boon Lay Extension to the EWL) to expand the coverage of the RTS by more than 50% to 215km. By 2020, RTS network will be double from

138km today to 278km . This will increase RTS capacity from 31km per million populations today to 51km per million populations by 2020. This is comparable to that in cities like New York and London, and exceeding that in Hong Kong and Tokyo. Within the Central Area, commuters will be able to access an RTS station within 400m, or five minutes' walk, on average.

The government have approved the implementation of the following lines by year 2020 at a given budget of about $20 billion:

Thompson Line (TSL) (27km, 18 stations) by 2018 – This will serve the supplementary public transport demand along the north-south corridor given the projected advancement in the north and northeast regions. The line will improve accessibility along the corridor and help relieve crowding on the existing North South line (NSL).

Eastern Region Line(ERL) (21km, 12 stations) by 2020 – This will provide residents of housing estates along East Coast corridor not to date served with direct RTS access to the important employment centres CBD, Marina Bay and Changi Area.

Tuas Extension to the East West Line (EWL) (14km, five stations) by 2015 - This will enhance public transport and improve the rate of employment growth in the Jurong Industrial Estate (JIE), especially for areas beyond the Boon Lay Extension.

NSL Extension (1. 0km, one station) by 2015 – This will improve accessibility to new developments proposed in the Marina Bay area, such as the new cruise terminal and Gardens by the Bay.

When the full Rail Network System is fully establish LTA is planning on looking to cut down on buses which have long travel route, LTA will only emphasize on feeder buses as Rail Network System will cover every corner of Singapore. These will reduce carbon emission cost by the buses as the MRT is the most environmentally system compared to buses and this will also answer to the problem of road congestion due to the fact that Singapore is a small state which means scarcity of land.

Safety and security are two crucial factors of commuter's experience. The former is on the minds of all Singaporeans with the rise in the number of track intrusions at elevated MRT stations. Track intrusions, whether intentional or accidental, also interrupt train services and cause inconvenience to commuters, who may have to shift to buses to complete their journeys. To reduce such incidents, LTA will be installing Platform Screen Doors at aboveground MRT stations. Stations such as Yishun, Jurong East and Pasir Ris have already been installed with such doors in 2009, with a target to fit all aboveground stations with the Platform Screen Doors by 2012. Half-height screen doors, will be used as to meet LTA objectives of making system safer, while still allowing good ventilation at the stations for the comfort of the commuters, thus avoiding extra energy cost for air-conditioning and lighting. With the essential transformation of the global security climate it is crucial to ensure the security of public transport system. A series of security measures have been implemented to protect these transport system. These include installing closed circuit television (CCTV) cameras and having security officers and police officers at RTS stations and bus interchanges. LTA will work closely with various security agencies and

public transport operators to enhance security of public transport system against terrorist threats.

Strengths

Increase public confidence and security of using public transport

Public transport that adapt to ever changing lifestyle and technology

Reduce private cars which would cost congestion

Weaknesses

Create congestion and road hazards due to road works.

High standard of living will increase the number of private owned cars

Opportunities

Providing great public transport that serves the corner of Singapore

Provide jobs for the oncoming projects

Threats

Construction causes road hazard to unfamiliar drivers

Congestion due to road works

Conclusion

In conclusion after the study and research on Singapore public transportation and the government strategies in gaining recognition on the reliability and

security of the public transportation have succeeded. The ‘ pull-push’ strategies have gained the trust of the public to use the public transportation. Nevertheless as security is concern moreover against threat such as terrorist threats, the government and the public must work hand in hand in order these threats is to be prevented. The capability of the government to make use of the small land area of Singapore have make public transportation a good one as the land is fully utilize as such as building underground tunnel for the rapid transit network system. With this strategies and capability of the government the future public transportation of Singapore are looking bright.

The government have also set their views in an environmentally friendly transportation system by reducing the amount of carbon emission produce by the long journey buses. These will take into action once the Rapid transit system is completed in the year 2020. These will further improve and create a concrete stand on the government views towards attaining sustainable development.