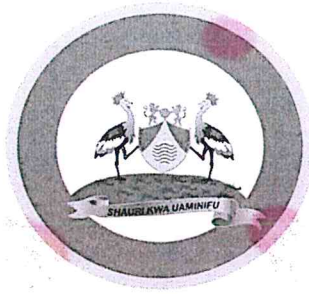


GOVERNMENT OF NAIROBI CITY COUNTY



THE NAIROBI CITY COUNTY ASSEMBLY

OFFICE OF THE CLERK

SECOND ASSEMBLY-SECOND SESSION

NBI CA. PLC. 2018 / (061)

6th Nov, 2018

PAPER LAID

Pursuant to Standing Order 191 (6) I beg to lay the following Paper on the Table of the Assembly, today Tuesday 6th November, 2018.

THE REPORT OF THE DELEGATION THAT CONDUCTED STUDY VISIT TO THE REPUBLIC OF SINGAPORE FROM 5TH TO 12TH AUGUST, 2018.

(Chairperson, Sectoral Committee on Transport and Public Works)

Copies to:
The Speaker
The Clerk
Hansard Editor
Hansard Reporters
The Press

Approved for tabling
[Signature]
[Signature]

THE GOVERNMENT OF NAIROBI CITY COUNTY



**NAIROBI CITY COUNTY ASSEMBLY
SECOND ASSEMBLY – (SECOND SESSION)**

**REPORT OF THE COUNTY ASSEMBLY DELEGATION THAT CONDUCTED STUDY VISIT
TO THE MINISTRY OF TRANSPORT AND INFRASTRUCTURE OF THE REPUBLIC OF
SINGAPORE**

5TH TO 12TH AUGUST, 2018

**CLERK'S CHAMBERS,
NAIROBI CITY COUNTY ASSEMBLY
CITY HALL
NAIROBI.**

OCTOBER 2018

Table of Contents

Abbreviations and acronyms	3
1.0 PREFACE	4
1.1 Background.....	4
1.2 Composition of the delegation.....	4
1.3 Programme summary.....	4
1.4 Acknowledgement.....	5
2.0 INTRODUCTION	6
2.1 Background.....	6
2.2 About Singapore.....	6
3.0 PRESENTATIONS	7
3.1 Overview of Singapore Public Transport System	7
3.2 LTA.....	7
3.2.1 Introduction.....	7
3.2.2 Road Transport.....	8
3.2.3 Vehicle Quota System.....	9
3.2.4 Electronic Road Pricing.....	9
3.2.5 Modes of Transport in Singapore	10
3.2.6 The Mass Rapid Transit.....	10
3.2.7 Industry regulator.....	11
3.2.8 Management of MRT Operation	11
3.3 SMRT	12
Figure 1: Delegation at the SMRT Head Office	13
Figure 2: SMRT LRT train.....	13
3.4 SBS.....	14
3.4.1 Introduction.....	14
3.4.2 Bus Control Centers.....	14
Figure 3: Delegation meeting SBS team	15
Figure 4: Members of delegation on one of the SBS BRT buses	16
Figure 6: One of the SBS's Depot Control Centre	16
Figure 7: The CFMS Console at a Control Centre.....	17
Figure 8: SBS depot maintenance and monitoring unit.....	17
Figure 9: Delegation at an SBS maintenance Unit	18
4.0: LESSONS LEARNT FROM SINGAPORE.....	18
5.0 RECOMMENDATIONS	20

Abbreviations and acronyms

CFMS	Common Fleet Management System
BRT	Bus Rapid Transit
LRT	Light Rail Transit
LTA	Land Transport Authority
MRT	Mass Rapid Transport
PTC	Public Transport Council
SBS	Singapore Bus Service
SMRT	Singapore Mass Rapid Transport

1.0 PREFACE

1.1 Background

Hon. Speaker,

Four (7) Members of the County Assembly and one (1) Officer took part in the study visit to the Republic of Singapore to learn their experiences in public transport management. The visit was part of the work plan of the Sectoral Committee on Transport and Publics. This specific visit was conducted from 5th to 12th August 2018 as approved by the Hon. Speaker. The engagements with Singapore was aimed at exposing the Members to how Singapore manages its public transport industry and bring home lessons and potentially incorporate them into County's system for efficient and effective transport Sector

The visit enabled the Members to hold one on one engagement officials who handle key aspects in the public transport sector. To actualize this, the delegation met officials from the following entities:

- a) Local Transport Authority (LTA)
- b) Singapore Bus Service (SBS)
- c) Singapore Mass Rapid Transit (SMRT)

1.2 Composition of the delegation

The delegation comprised of the following members:-

- (a) Hon. Mark Mugambi Macharia, MCA (Leader of the Delegation)
- (b) Hon. Evans Otiso, MCA
- (c) Hon. Mary Njambi, MCA
- (d) Hon. Milliecent Jagero, MCA
- (e) Hon. Beatrice Gakuru, MCA
- (f) Hon. Maurice Ochieng', MCA
- (g) Hon. David Okelo, MCA
- (h) Mr. Inyundele M. Austin (Secretary to the delegation)

1.3 Programme summary

Hon. Speaker,

On the 6th August 2018, the delegation held a meeting with the Land Transport Authority on the management and policy highlights of the industry. On the second day, 7th August 2018, the Committee held a meeting with the SBS as an operator and on 8th August 2018, the delegation engaged the SMRT.

1.4 Acknowledgement

Hon. Speaker,

The delegation wishes to sincerely thank the Offices of the Speaker and the Clerk of the County Assembly for the support offered that enabled Members to undertake the study visit to Singapore. I am grateful for the Members of the delegation who enabled the successful visit. Allow me also to express my gratitude to the secretariat for the support and facilitation prior to and during the period of the conference.

Hon. Speaker,

On behalf of the delegation, I now have the honour, pleasure and duty to present this report of the delegation that conducted a study visit to the Republic of Singapore from 5th to 18th August, 2018.

Thank You.

SIGNED  (Mark. Macharia)
HON. MARK MUGAMBI MACHARIA, MCA
(Leader of the Delegation)

DATE 31/10/18

2.0 INTRODUCTION

2.1 Background

The delegation left Nairobi, Kenya on Sunday 5th August, 2018 and arrived on 6th August 2018 morning. On 6th August 2018, the delegation met officers from the Land Transport Authority at their Head Office. The Committee was also able to engage the public transport operators (SBS and SMRT) on 7th and 8th August 2018 respectively. However, the delegation was not able to meet the parent Ministry officers as intended because the Country was celebrating their National day. That notwithstanding, the delegation was able to achieve its objectives as far as information is concerned. The delegation returned on 12th August 2018.

2.2 About Singapore

Though physically small, Singapore is an economic giant. It has been Southeast Asia's most modern city for over a century. The city blends Malay, Chinese, Arab, Indian and English cultures and religions. The country includes the island of Singapore and 58 or so smaller islands.

Because of its efficient and determined government, Singapore has become a flourishing country that excels in trade and tourism and is a model to developing nations. It has an approximate population of 6 million people. The capital city, also called Singapore, covers about a third of the area of the main island.

Located at the tip of the Malay Peninsula, the republic's excellent infrastructure enables locals and visitors to commute and enjoy its many sites and attractions in a safe, clean and green environment. Chang'i Airport provides air links to major cities around the world. The train and subway systems are clean, fast and efficient.

In the city public transportation is excellent and walking is a good way to explore the city. All major attractions are also accessible by tour bus.

In 2018, Singapore unveiled a ministry based budget of S\$80 billion (Ksh.6.24 trillion) with S\$20 billion (Ksh.1.56 trillion) directed to infrastructural development. With this massive investment (25% of budget), the Government's commitment to improvement of infrastructure cannot be doubted.

It is worth noting that in 2017, Singapore gave bonuses to its citizens aged 21 and above because of its surplus budget. This cost the government S\$700 million (Ksh. 54.6 billion). This only points to a giant and vibrant economy that is capable of taking

It is worth noting that in 2017, Singapore was giving bonuses to citizens aged 21 and above because of its surplus budget. This cost the government S\$700 million (Ksh. 54.6 billion). This only points to a giant and vibrant economy that is capable of taking care of virtually all the services needed by the citizens in an effective, efficient and convenient manner effectively and efficiently putting taxes to use.

3.0 PRESENTATIONS

3.1 Overview of Singapore Public Transport System

It was noted that the overall transport system in Singapore is overseen by the Ministry of Transport that provides oversight over the development and regulation of civil aviation, maritime transport and ports and land transport.

There are a number of statutory agencies under the Ministry that oversee the day to day operations of the respective modes of transportation. Specifically and of interest to the Committee was the Land Transport Authority (LTA) and the Public Transport Council (PTC).

3.2 LTA

3.2.1 Introduction

The delegation visited LTA head office on 6th August 2018 and was received by the managing director. The Committee held indoor meeting with the director and his team where they shared about their work and operations.

The delegation was informed that The Land Transport Authority (LTA) is a statutory board which spearheads land transport developments in Singapore. It is the agency responsible for planning, designing, building and maintaining Singapore's land transport infrastructure and systems. Its key aim is to bring about a greener and more inclusive public transport system, complemented by convenient options to walk and cycle from their homes or to their destinations. The agency leverages on technology in order to strengthen land transport infrastructure and provide exciting options for future land transport.

Specifically, the agency deals with transport planning, expansion of local rail network, establishment of new railway financing framework, development of bus

contracting models, regulation of taxis and private hire cars and management of private vehicle pollution. They work hand in hand with the parent Ministry, Ministry of Development, Ministry of Trade and Industry and line statutory bodies. The agency is currently working to develop an integrated development model that emphasizes on a holistic spatial development and planning where estates have the following essential elements:

- Residential structures
- LRT
- BRT and bus Interchange
- Commercial spaces
- Taxis spaces

LTA aims are increasing the rail capacity and bus numbers to counter the prospect of population increase by 2019. To strengthen this course, the agency was concluding on the New Rail Financing Framework (NRFF) that is characterized by:

- Ownership of operating assets by LTA where it will have a greater control over investment decisions and operations will focus on provision of rail services;
- Shorter license duration, up to 15 years in order to make the industry more contestable;
- The operators to pay a license charge for the right to operate lines. This will ensure that revenue and cost risk will be share between LTA and operator;
- The license charge to be paid to Railway Sinking Fund for building, replacement and upgrading of operating assets.

Regarding the BRT, all bus routes in Singapore are grouped into 14 packages in order to attract new bus operators. They are area-based and centered around depots where each depot has 300 to 500 buses.

3.2.2 Road Transport

The delegation learnt that Singapore has an aggregate road network of 3336 KM and 164KM of expressway networks. A vehicle population of 961, 842 vehicles including 612,256 private cars use this road network.

The delegation was informed that the country's Deprioritizing Car Ownership policy under the Going Car Lite initiative aims at keeping to the minimal, private car ownership in the country.

To make this happen, Singapore has embraced the Vehicle Quota System.

3.2.3 Vehicle Quota System

The Vehicle Quota System (VQS), the delegation was informed, regulates the rate of growth of vehicles on their roads, at a rate that can be sustained by developments in land transport infrastructure.

Further, LTA controls the number of new vehicles allowed for registration, while the market determines the price of owning a vehicle. The VQS was implemented in May 1990 when rising affluence in the country showed that simply increasing ownership taxes were not effective in controlling vehicle population growth.

Furthermore, anyone who wishes to register a new vehicle in Singapore must first obtain a Certificate of Entitlement (COE), which represents the right to own a vehicle for 10 years.

In addition, VQS together with the Electronic Vehicle Pricing is one of the key pillars in traffic management strategies. With Singapore's limited land resources and increasing demands for vehicle ownership, the country needs to make sure that the vehicle growth rates do not spiral out of control and lead to gridlock on the roads. LTA believes that road construction and public transport projects will be ineffective in the long run if vehicle population is not put to check.

3.2.4 Electronic Road Pricing

It was noted that ERP is an Electronic Road Pricing System used in managing road congestion. Based on a pay-as-you-use principle, motorists are charged when they use priced roads during peak hours.

On ERP, rates vary for different roads and time periods depending on local traffic conditions. This encourages motorists to change their mode of transport, travel route or time of travel.

Further, it operates on the principle that traffic congestion is costly to the individual and society. It results in the loss of productive hours, environmental pollution, wasted fuel and adverse health effects. To keep traffic moving, LTA uses a holistic and integrated approach using all the tools available, including building more roads, regulating vehicle growth, implementing traffic engineering solutions and promoting the use of public transport.

In addition to the various measures, the agency also need to manage traffic demand through ERP. With more vehicles on the road, ERTS remains effective in addressing current and future traffic conditions and ensuring that motorists continue to have smooth journey. The delegation was further informed that the tender for the next generation, satellite based pricing system had been awarded. Its pricing model will be distance based and will bring fairness to all motorists.

3.2.5 Modes of Transport in Singapore

Like other major cities in the world Singapore offers a range of land transport modes for both locals and visitors. Notably, the Mass Transit (MRT) that is composed of buses, trains; taxis, cycling.

3.2.6 The Mass Rapid Transit

The Mass Rapid Transit is the most common and fastest mode of public transport to get around in Singapore that emphasizes on use of Light Rail Transit (trains) and Bus Rapid Transit (buses). Using these buses require passengers to possess credit cards or coins dropped in coin boxes.

Passengers purchase tickets for single trips, but if one intend to use the MRT and basic bus services frequently, one can buy a Singapore Tourist Pass (STP), a special EZ-Link stored-value card which will allow passenger unlimited travel for one day, two days or three days depending on the amount loaded in the card.

Singapore's bus and rail system has an extensive network of routes covering most places in Singapore and is the most economical way to get around.

3.2.7 Industry regulator

Public Transport Council (PTC) is the public body established by an Act of Parliament that is responsible for regulating public transport fares and ticket payment services. The body advises the Minister for Transport on public transport matters.

Their key focus is to bring about a quality and affordable public transport system for the people of Singapore. They work in collaboration with other public transport industry players and public agencies, for instance, LTA.

Key Function and Objectives

Specifically, PTC has the following statutory powers:

- Regulating bus and train fares except taxi fares;
- Promoting and facilitating the integration of bus and train fares for efficient public passenger transport services and facilities;
- Regulating ticket payment services for buses and trains;
- Regulating penalty fees to deter fare evasion; and
- Gathering public feedback on any matter relating to bus, train and taxi services in Singapore, through surveys and other methods.

3.2.8 Management of MRT Operation

As regards private operators in the industry, the delegation learnt that the management of day to day operations of the MRT public transport means is by private companies, namely, SMRT and SBS who control the movement of the buses and trains and their maintenance from their depots across the country. The infrastructure, including the trains and buses are government owned. The revenue collected goes to the government coffers. The companies are given management fee by the government as per the contract terms after a period of time.

As part of the contract, the companies are required to provide effective and efficient means of transport to the citizens with minimal delays which are often sanctioned.

3.3 SMRT

The delegation visited the Singapore Mass Rapid Transit on 8th August 2018 at their head office and was received by the managing director. The delegation held a meeting with a selected team from the company where they made a presentation on how the company operates on a day to day basis.

With their mission being to be the people's choice by delivering a world-class transport service and lifestyle experience that is safe, reliable and customer-centric, SMRT emphasizes on safety and service excellence; mastery of what they do; responsibility and respect; teamwork; nurturing and integrity.

SMRT operates majors on railway transport. It is divided into 4 operation lines along which there are 137 stations in different areas.

The Company has a staff number of 5400 that manages 6 depots and moves more than 2 million commuters daily.

The key prospective challenges being faced by the company include: aging network infrastructure, limited engineering hours, regulators being owners and stakeholders, rising commuter expectations and high demand for rail transport.

To counter this, the company is working on various strategies to ensure railway reliability, including:

- Power rail replacement
- Resigning of lines
- Track circuit replacement
- Replacement of sleepers
- Renewal of power supply system
- Rolling out of train replacement programme and reducing the head way time.

Figure 1: Delegation at the SMRT Head Office



Figure 2: SMRT LRT train



3.4 SBS

3.4.1 Introduction

The delegation visited SBS head office on 8th August 2018 and was met by the managing director. The delegation held an indoor meeting with the company team where a presentation of the operations of the company was made before visiting its garage, control room and enjoying a ride on one of their buses.

SBS Transit controls and owns more than 60% of the scheduled bus market share in Singapore. The company has a fleet of more than 3100 buses which are air conditioned and it operates more than 200 depots. The company has more than 10,000 employees that work in various positions.

Apart from being the owner of the biggest market share, SBS also operates selected LRT lines in the Country.

3.4.2 Bus Control Centers

These are the nerve centres of the bus network are the operations control centres that are operated using the Common Fleet Management System (CFMS) that uses the Global Positioning System (GPS). Every bus on the road is linked to a centre, of which there are seven, each monitoring traffic conditions and the movements of over 500 buses on average.

The centre in Seletar Depot, for example, tracks 27 bus services to ensure that they run on schedule, covering a route network in Yishun, Ang Mo Kio and the Central Business District.

There are seven controllers on each shift, so each of them tracks about four bus services. They can relay instructions to bus captains, who can also report back on any accidents, traffic jams or incidents on board via a microphone.

In this way, the controllers can adjust arrival times remotely, by telling the drivers to increase speed or slow down.

When one of the buses is ahead of schedule, for example, service controller directs the bus captain to slow down for some minutes to avoid bunching which is a

situation where two or more buses of the same service arrive at a stop together. This makes the service unreliable hence creating longer waiting times. During the peak period, the controllers' workload gets doubled or tripled corresponding with the increase in the number of buses on the road. Public buses can operate up to 18 hours a day and thus require regular maintenance. Each bus goes through a three hour check every two months to ensure their optimum operational condition. Maintenance and cleaning is done at the company's various depots across the country.

Figure 3: Delegation meeting SBS team



Figure 4: Members of delegation on one of the SBS BRT buses



Figure 6: One of the SBS's Depot Control Centre

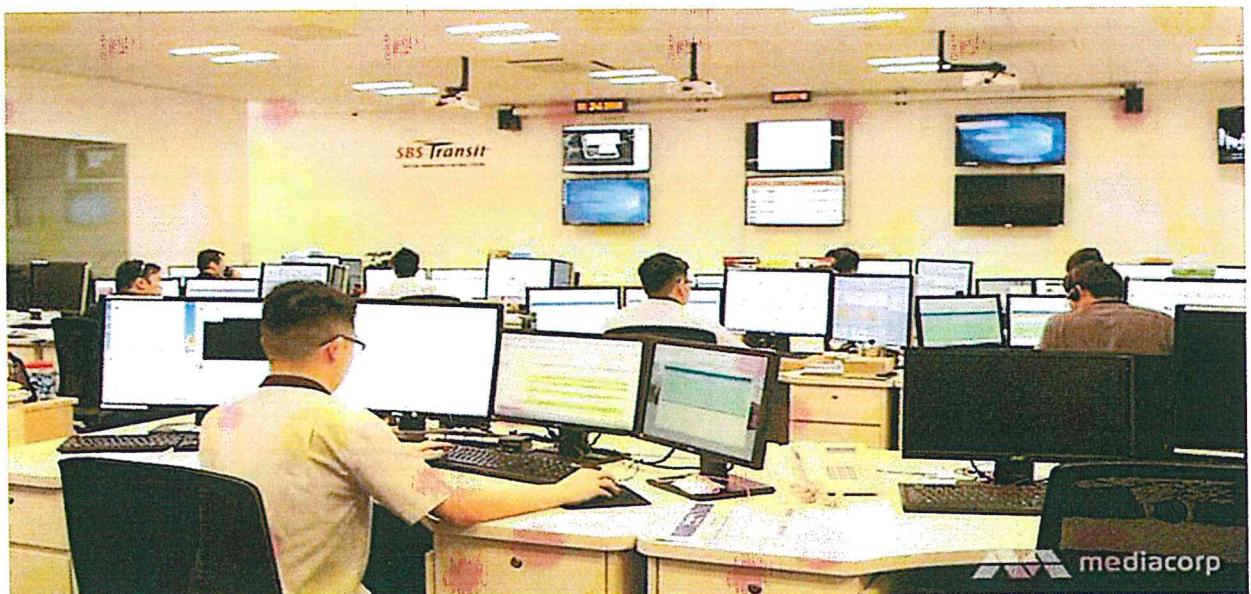


Figure 7: The CFMS Console at a Control Centre

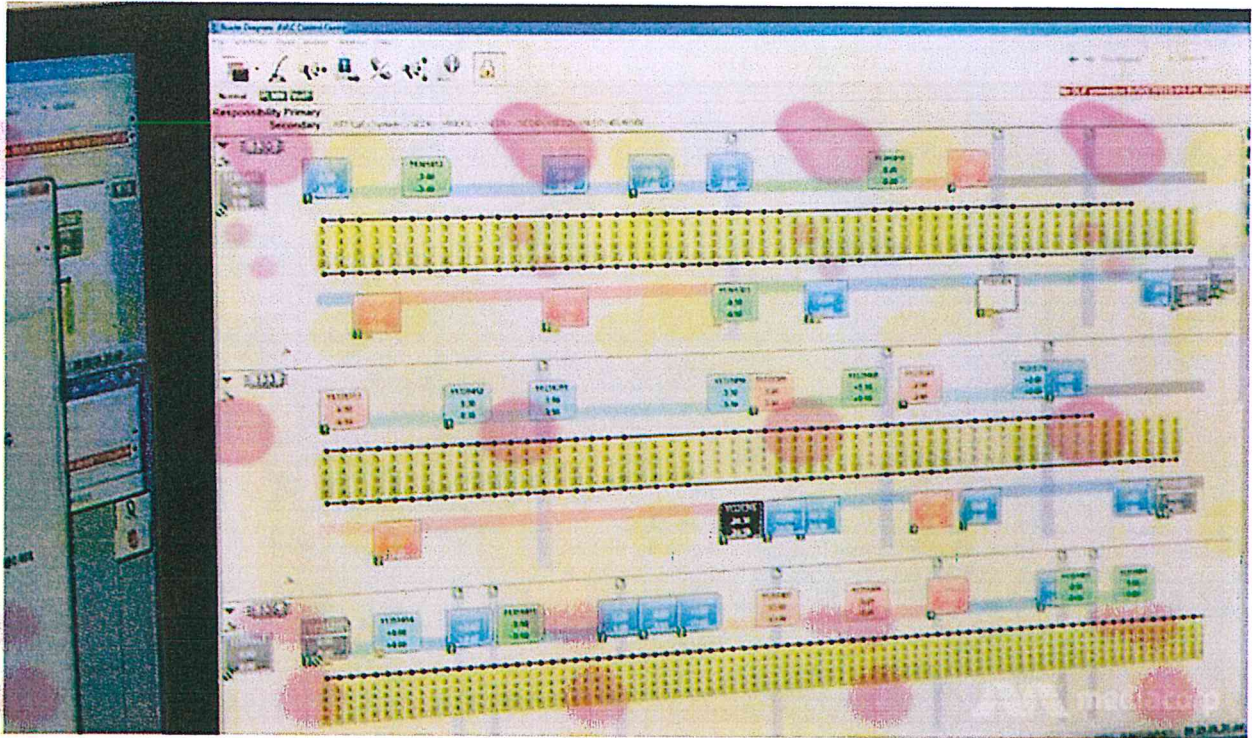


Figure 8: SBS depot maintenance and monitoring unit



Figure 9: Delegation at an SBS maintenance Unit



4.0: LESSONS LEARNT FROM SINGAPORE

Following the visit to the Republic of Singapore, the delegation was able to pick the following lessons in public transport management:

- 1. Enhanced government control-** It was noted that the government must not only provide operating license to operators, but having upper hand in regulation of the public transport sector as regards ticketing, pricing, standards etc. This enhances reliability, order and discipline amongst the players;
- 2. High level of discipline among the people** –It was observed that discipline on users (motorists, pedestrians, cyclists) of public transport infrastructure has brought about effective and efficient public transport especially with regard to abiding by the laws and policies in place;
- 3. Public-private partnerships-** In Singapore context, PPP has proven to be an effective approach to providing effective and efficient public transport where the government owns the infrastructure and lets the private sector undertake the management;

4. **Transparency**-the high sense of openness and integrity in the process of service delivery both on the side of the government and private operators enhances development prudence and reliability through financial and human resources allocated for specific functions are used for the same without fraud or short changing;
5. **Multiplicity of means of transport**- In Singapore, commuter has multiple options as regards means of transport to move them from one place to another. From LRT, BRT to cycling, walking, taxi cabs, private hires. This removes strain from any one form of transportation enhancing reliability and convenience;
6. **Proper infrastructure**- good public transport infrastructure (railway, roads, NMT facilities etc.) that is provided by the government is providing Singaporeans with needed convenience and comfort for commuting;
7. **Eye on the future and planning**- Singapore has a smaller population of about 6 Million people. It is expected that this will increase as time passes. To respond to this, the country has plans for railway expansion, increase in BRT assets and private vehicle population control in order to maintain a sustained operation level while giving quality services; and
8. **Overlap of functions and agencies**- It was noted that unlike at home, every institution's mandate was express without overlap. It creates harmony among the stakeholders and eventual beneficiary is the commuter who does not become victim if unnecessary power plays and blame amongst institutions.

5.0 RECOMMENDATIONS

Following the study visit and in view of the above lessons, the delegation urges this Assembly to adopt this report and to resolve as follows:-

1. The County Government, through the Public Works, Roads and Transport to liaise with Ministry of Transport in a bid to ensure that the laws and regulations that govern public transport and traffic are enforced with the help of the County Inspectorate Department and County Traffic Marshals;
2. The County Government to propose to the NTSA the type, design and shape of PSV *matatus* to be allowed to operate on roads within the County;
3. Nairobi City County, via the Public Works, Roads and Transport Sector and in liaison with the County Assembly to expedite the process of repair and installation of traffic lights to effectively manage traffic flow across the City;
4. The County Executive through the Nairobi Regeneration programme and the Ministry of Transport and Infrastructure to expedite the revival of the Nairobi commuter trains as a short term measure to address traffic congestion. In the long term, to widen the rail network from the estates while looking forward to introduction of electric LRT for efficiency and convenience;
5. By law, the County Executive to require that all public transport vehicles forward their fare schedules before issuance of operation permits. It should be a requirement that the said chart should be in conformity with NTSA guidelines regarding fares;
6. In order to ensure that the City is kept orderly, the Nairobi Regeneration Committee to expedite the process of ensuring that PSV *matatus* are moved out of the CBD and specific route PSVs allocated the termini outside the CBD and operation regulations developed and gazetted to enhance order the various termini;
7. The County Assembly to move with speed in ensuring that a law is in place to regulate public transport and traffic in the County;
8. The County to establish and gazette quality of works and maintenance contracting guidelines to ensure that public transport infrastructure are kept in optimum operational conditions at all times for convenience, efficiency and comfort ;
9. In the spirit of environmental soundness and order on the roads, the County Government to liaise with the Ministry of Interior and National Development,

National Police Service in view of ridding the roads of unroadworthy vehicles and broken down and abandoned motor vehicles;

10. The County Government to write a memorandum to the Parliament pronouncing itself on the need to ensure that agencies in the road sector are reasonable in number and mandate to avoid overlap of mandates and duplication of projects as it is now. This is expected to influence the Road Classification in the proposed Roads Act that is in the Parliament for enactment;
11. The County Executive to establish strategy for periodical public transport industry players and citizen engagement with a view of disseminating government information on policies and laws and in turn collect feedback and input. This is expected to improve confidence in Government and enhance behavior change as far as utilization and consumption of public transport services as well as conformity to public transport rules;
12. In a bid to encourage use of alternative means of transport over short distances, the County Government to rolled integrated road transport development strategy that seeks to ensure that all roads are constructed with Non-Motorized Transport facilities in line with the Nairobi City County Non-Motorized Transport Policy 2017; and
13. The County Government to consider investment in public transport through acquisition of own fleet as one of the ways to regulate the public transport industry and eliminate unfair business pricing and exploitation of residents.

