

Expert Group Meeting on Planning and Assessment of Urban Transportation Systems – 22nd – 23rd September 2016, Kathmandu, Nepal

1. Introduction

- **Background and status of National Transport System**

Transportation plays a crucial role in the development of a country no matter it is economic, social or cultural development.

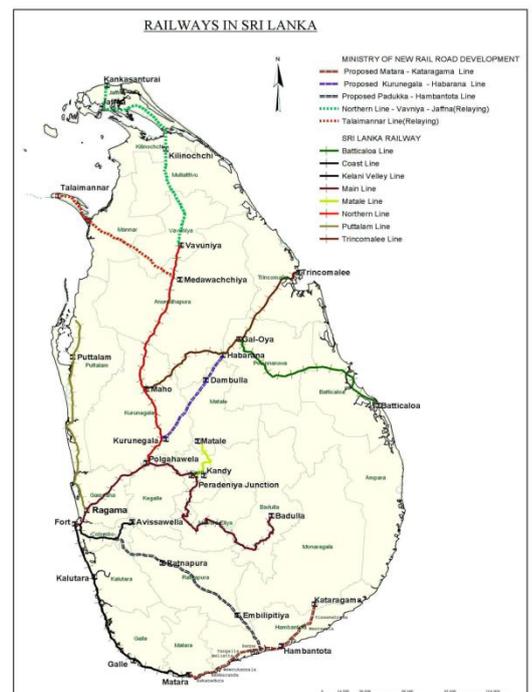
The Ministry of Transport and Civil Aviation is responsible for ensuring that the mobility needs of the entire country both in terms of transport of people and goods are satisfactorily provided for the different players in the market. Currently this is provided by road and rail with the share of the railway having diminished to 5% of the passenger market and that of the goods market to 2-3%. Passenger transport of the country is undertaken by both public and private buses. In 2014, bus transport accounted for 61% of the country’s total passenger transport. Total number of buses available in the country is 30000 approximately at present. It is significant that 85% of this amount is privately owned. In 2014, average number of private buses operated daily for the passenger transport was 24000 while 6000 buses are owned by the government. Contribution of the road transport method for freight was 98% in 2014.

Sri Lanka Railways

In order to uplift the national economy, Sri Lanka Railways rendered its fullest contribution for passenger and freight traffic within the National Transport system with other major transport modes

Policy Perspectives and Strategic Investment programme 2016 – 2021 was prepared for Railway sector in 2015 covering all parts of the country.

After the end of 30 years long internal conflict Sri Lanka is in a momentum in the path of rapid development which includes transport sector. Government of Sri Lanka started the rehabilitation works of infrastructure which were badly



destroyed by war activities. Rehabilitation of railway lines and signaling system in Northern and Thalaimannar Lines were the one of key priorities of the government's development agenda. Accordingly, with the signing of MoU between GOSL and Government of India, it was able to commence the rehabilitation works of the railway infrastructure facilities. These railway rehabilitation works were implemented under five major projects funded by Indian Line of credit in Northern Line. Under this project it was able to reconstruct 311 km under this rehabilitation projects providing accessibility to all the country.

In addition to the above major projects, Ministry of Transport and Civil Aviation has implementing new railway line construction project form Matara to Katharagama. As a phase 1, construction work is ongoing from Matara to Beliatta (27km).

- **Background and status of Urban Transport System**

It is well accepted that the cities have been recognized as engines of economic growth and development due to their major contribution to Gross Domestic Product of a country. Colombo Metropolitan Region (CMR) contributes about 40% to the country's Gross Domestic Product having the population of approximately 5.8 million. Population share is approximately one fourth of the country's population. Within the CMR around 38% of all trips are made by private modes including cars, motorcycles, three wheelers and taxis while approximately 40% of trips are made by bus and railway. The remaining 22% of trips are made by non-motorized modes of transport. Bus plays a vital role in daily movements of Western Province's residents as it carries almost half of all motorized trips. In contrast, the railway has extremely low modal share given the low coverage of the railway network comparing to the bus network.

Sri Lanka Railway (SLR) is operating a 230 km railway network serving the CMR, comprising of four railway lines radiating from Colombo. The Main Line and the Coast Line are well patronized especially during peak periods. The Puttlam Line and the Kelani Valley Line are single-tracked and not as attractive due to low train speeds and frequencies. The government is also planning several extension to the suburban railway network, such as the proposed line to its administration capital Battaramulla.

- **Institutional arrangements and agencies involved in planning, development, assessment and monitoring of sustainable transport and urban transport systems/ projects.**

Ministry / Provincial or Municipal Government	Institutions under purview of the ministry
Ministry of Transport and Civil Aviation	Department of Sri Lanka Railways Sri Lanka Transport Board Department of Motor Traffic National Transport Medical Institute National Transport Commission National Council for Road Safety Civil Aviation Authority Airport and Airport Services (Sri Lanka) Ltd.
Ministry of Higher Education and Highways	Road Development Authority
Sri Lanka Police	Traffic Police
Ministry of Megapolis and Western Development	Urban Development Authority Megapolis Project
Provincial Councils	Provincial Passenger Transport Authorities
Municipal Government	Colombo Municipal Council

2. Urban transport Policies

- **National Urban Transport policies and Plans in your country**

The Ministry of Transport with the technical assistance of Japan International Cooperation Agency (JICA) completed a Master Plan for Urban Transport System Development for Colombo Metropolitan Region and the Suburbs in 2014. The Master Plan proposes several projects for improving urban Transport System in Colombo. Further under same Technical Assistance a feasibility study for the implementation of a monorail system was completed.

Further, with a prominent University of Sri Lanka a study was undertaken to study the Implementation of Bus Rapid Transit system in a congested transport corridor.

Finally, recently established Ministry of Megapolis and Western Development was used the above two comprehensive studies data and developed Western Region Transport plans with collaborating all the transport sector involvement agencies.

- **Current status of urban transportation systems in major cities and secondary cities (Public Transport systems such as public bus, bus rapid transit, mass transit, light rail transit, non-motorized transport, integrated transfer terminals)**

Colombo is the Capital of the Sri Lanka and it is also the major economic center. And administrative, Business, commercial and educational activities are concentrated to the city center.

Colombo and its metropolitan area—

referred as the Colombo Metropolitan Region (CMR)—fall

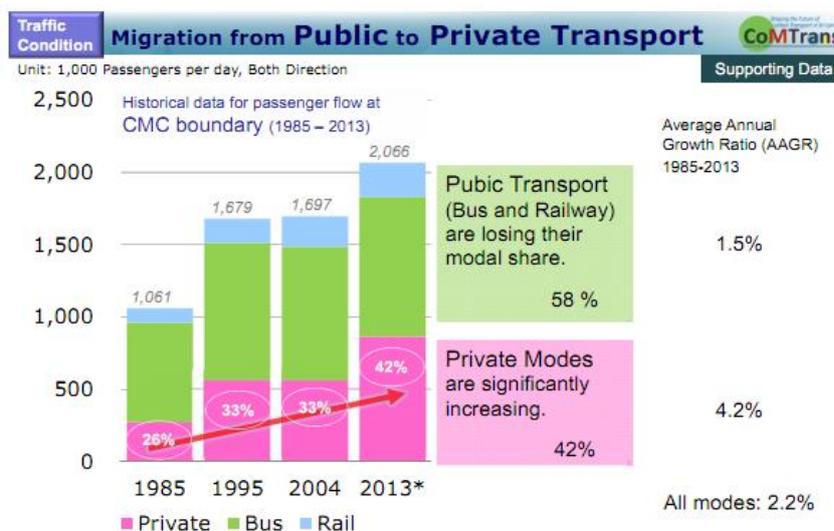
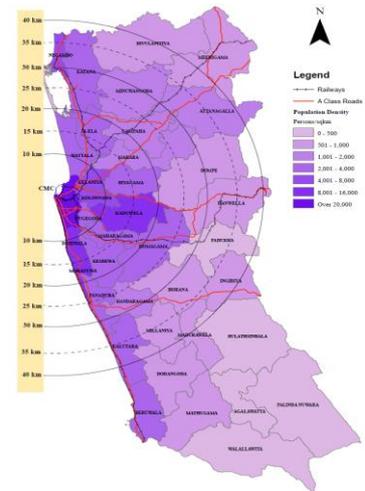
within the Western Province, which consists of three Districts which are Colombo, Gampaha and Kalutara,

which is the most densely populated and economically active region

within the country. The total area of the western province is 3593 square kilometers. The Colombo Metropolitan Region

(CMR) is defined as 80% of the land area of the Western Province where total population is 5.8 million in 2014. Colombo Metropolitan Region has experienced 5% of annual increase in the number of persons arriving to the city on a daily basis. The average trip length of passengers in the CMR is around 16 to 25 km. The Commuter trip length of the floating population is around 45 to 72 km.

Map of Colombo Metropolitan

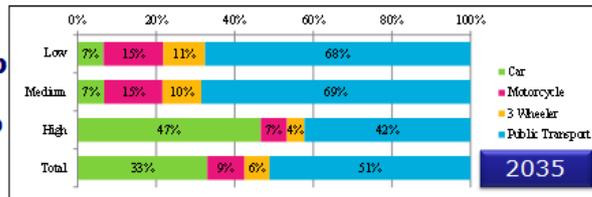
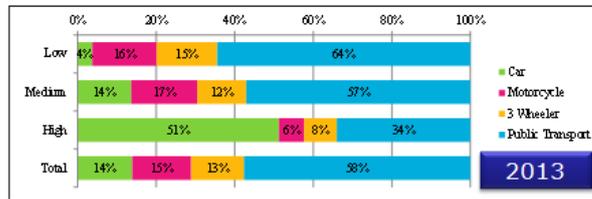


* Total passengers at CMC boundary at all survey location was 2.1 million passengers per day (both direction). For the comparison purpose, survey locations surveyed in '85, '95 and '04 were selected.

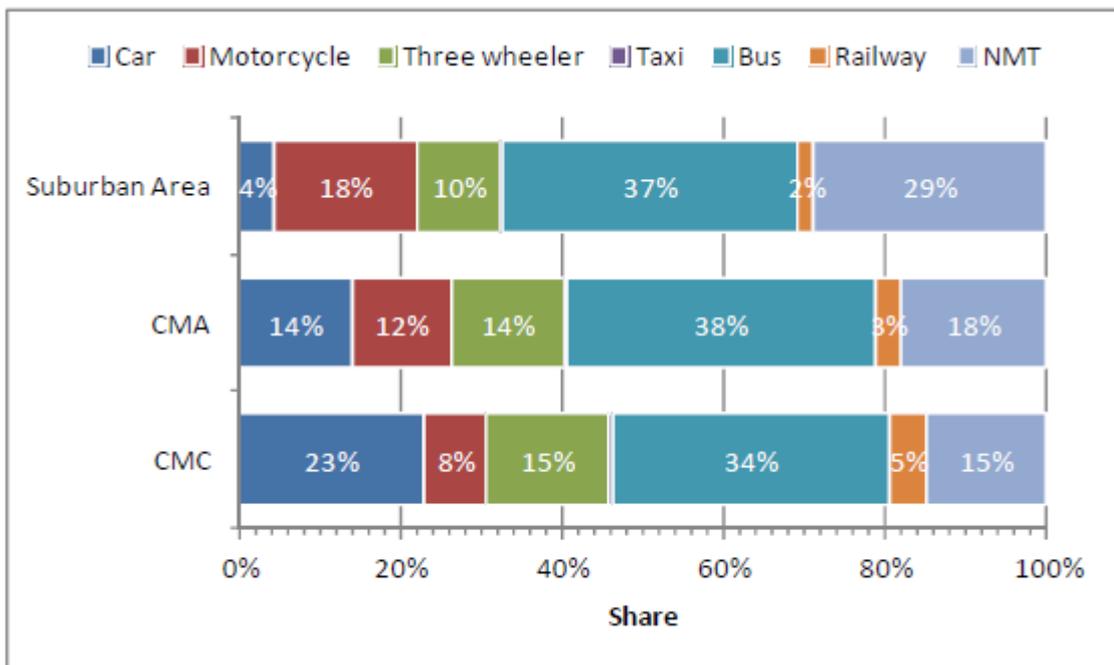
Modal Share of 2013 and 2035



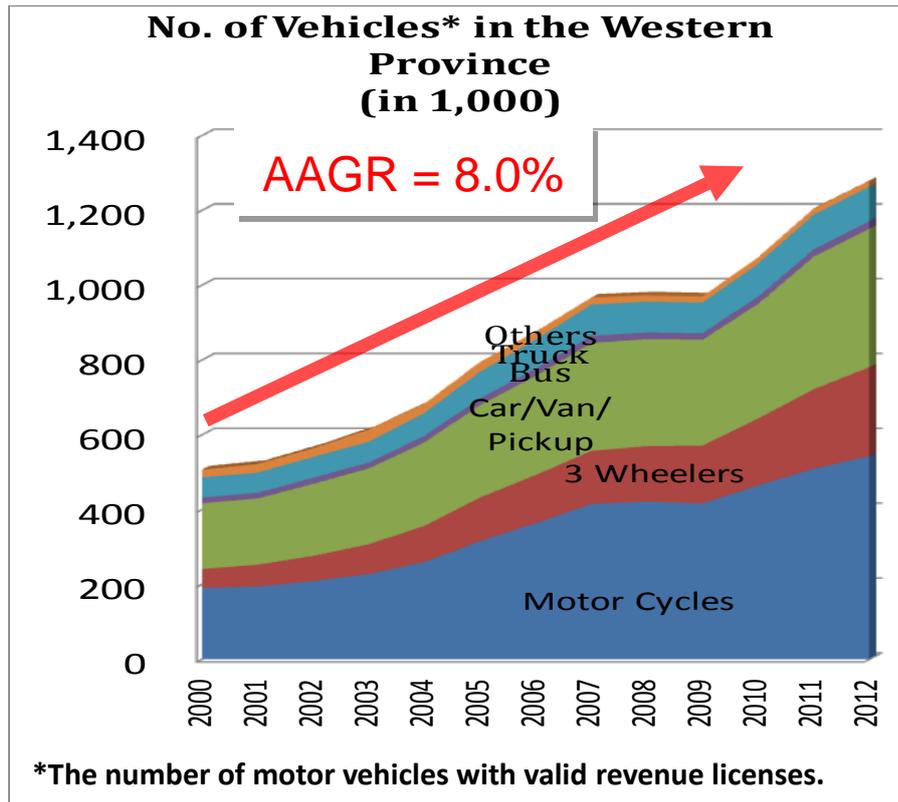
- The share of private car will be almost one third of total inter-zonal motorized trip due to increase of high income groups.
- The share of public transport by income group slightly increases due to public transport system development.



Estimated Modals Share of the Western Province



Modal Share by Region
Source: CoMTrans Study



The number of vehicles increased a factor of 2.5 in 12 years. Motorcycles and 3 wheelers showed significant surge in the number.

- **Ongoing and Planned Major Urban Transportation Projects**

A feasibility study to construct a Multimodal Transport Hub in Colombo Fort so as to integrate all transport modes for the convenience of both rail and bus passengers with a view to enhance the quality of the public transport services has also completed.



Conceptual Image of the Multimodal Transport
Hub in Colombo

Furthermore, Ministry of Transport and Civil Aviation conduct feasibility study for identifying the issues and projects to modernize urban railway system under the Technical Assistant from Asian Development Bank.

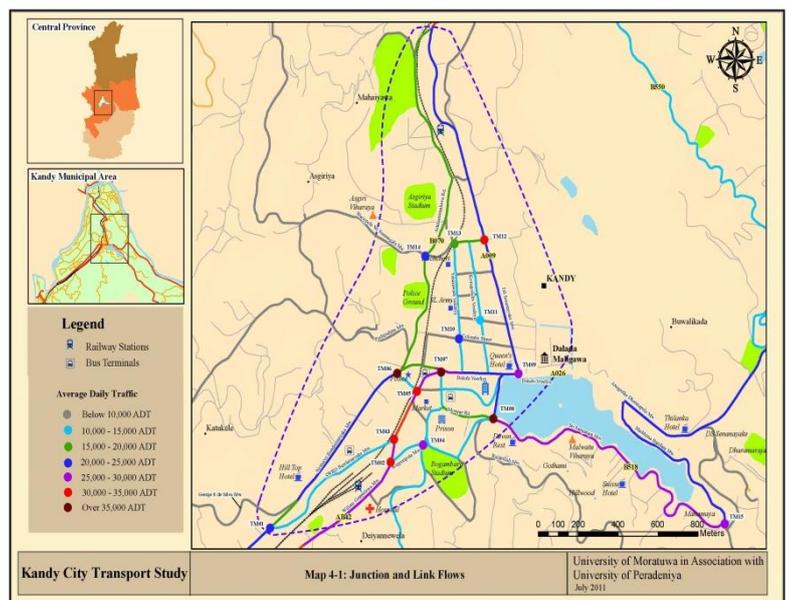
Under the supervision of Ministry of Transport and Civil Aviation, Department of Sri Lanka Railways upgrading Kelanyally railway line which is only the railway line covering western part of Colombo Metropolitan region.

The Ministry of Transport and Civil Aviation with the Ministry of Megapolis and Western Development, has initiated project preliminary works for several transport projects; such as Urban Rapid Transit system (LRT), Multi Modal Transport Hub in Fort, Multimodal Centers development as traffic nodes and etc.

Kandy City Development

Kandy City development project is implemented by Urban Development Authority under the World Bank Assistance.

Kandy City records 40,000 registered vehicles, a high vehicle ownership rate of 255 vehicles per 1,000 persons. This is nearly twice that of the national average and continues to increase keeping with the economic growth rate. Around 325,000 people enter the Kandy City during the 12 hour day time of a weekday, of which around 90,000 arrive for employment and 60,000 for education. Currently, the share of public transport is around 64% of motorized trips of which the railway share is only 2%; well below that of Colombo and also the national modal share. Around 19% of daily commuters continue their travel across the city. The buses entering the city are estimated to make 5,000 trips carrying 200,000 passengers. At the same time there are around 1,000 school vans entering the city on school days carrying over 16,000 school children. The balance made up of nearly 45,000 private vehicles that dominate the traffic flow, carry around 100,000 passengers in to the city.



To improve mobility within the Kandy City (Kandy Municipal Council area) and its environs initially included the following subcomponents:

- Public transport improvements
- Traffic and parking management
- Enhanced and safe pedestrian movements
- Strategic road improvements

3. Data availability on urban transport indicators

- Approach and method used to collect data on urban transport systems and indicators (such as: share of public transport, extend of cycle network, expenditure on urban transport, urban traffic fatalities, average trip cost, emissions from urban transport, energy efficiency, urban air quality PM 10, PM 2.5, etc.)
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Ministry/ Institute/ projects	Type of Survey	Issues/ Remarks
Ministry of Transport and Civil Aviation with technical support from Japan International Cooperation Agency (JICA) initiated the Urban Transport System Development Project for Colombo Metropolitan Region and Suburbs (CoMTrans)	Home Visit Survey (HVS) Cordon Line Survey (CLS) Screen Line Survey (SLS) Trip Generation Survey (TGS) Truck OD Interview Survey (TODIS) Travel Speed Survey (TSS) Trip Generation Survey (TGS) Stated Preference (SP) Survey	No proper mechanism to update the row data
Department of Motor Traffic	Number of Motor Vehicle registration Number of Driving license issued	
Sri Lanka Police	Road Accident Data	
National Transport Commission	Trip Generation Survey (TGS)	
University of Moratuwa	Trip Generation Survey (TGS) Travel Speed Survey (TSS)	
Road Development Authority	Travel Speed Survey (TSS) Trip Generation Survey (TGS)	

4. Issues and challenges faced by the Urban Transport System

Urban transport issues and problems in Colombo and other major cities have revealed as one of the major issues for traffic congestion. These issues can be summarized as follows;

Issues relating to Road Transport

- The road network in Sri Lanka is over 100,000km; of this 30,000 km are cauterized as national and provincial roads and rehabilitated. However the conditions of the balance roads are unsatisfactory contributing to unnecessary delays and accidents.
- New roads cannot be built in urban areas and roads, cannot be widened due to old settlements closer to the roads.
- There is a dis-connectivity in the cross-sectional configuration of the road.
- The private bus sector contributes about 60% of the transport needs while the remainder is by the public sector. The conditions of the private sector buses are relatively better than the public sector.
- The buses of the SLTB are old creating air pollution and frequent delays.
- Unsustainable increase in other modes of transport such as three wheelers, Motor bikes, Lorries, Vans containers aggravated the situation.
- Due to traffic congestion in recent years on the roads bus-operating speeds in peak periods have been decreasing. It has led to a lower level of bus service.

Issues relating to the Railway Transport

- The existing railway network in Colombo and other cities cannot cater to the needs of the growing population. Sri Lanka does not have electric trains/Metros or Monorails to reduce urban traffic congestion.
- The present railway system provides the suburban railway service from suburbs to the city Centre.
- Outdated rolling stock, weak rail tracks and outdated signaling system caused frequent delays to railway passengers.
- Absence of close connections on railway, road and air.
- New technological changes in the industry have not been appropriately adopted in to the Sri Lanka Railway activities
- Absence of inner circular railway track in Colombo Metropolitan Region to cater for the traffic congestion.

Other issues relating to the Transport sector

- Inadequate attention of Multimodal Transport - Lorries, Constrainers and other modes of freight transport is conducted through roads causing traffic congestion in Colombo and other areas.
- Rapid motorization and Frequent Road Traffic Accidents
- Insufficient para transport infrastructure facilities
- Lack of comfort, efficiency and safety in public transport services
- Issues in accessibility and mobility of transport for all
- Depending on national budget for Transport Services
- Scare space for infrastructure development in the city areas (eg:-shortage of parking facilities, lack of bus stop facilities, absence of walking space for pedestrian)
- Unavailability of land use plan

5. Way Forward

- Suggestion on selection of key indicators for evaluation and assessment of urban transport systems and improve data collection
 - Promotion of Public Transport Use
 - Alleviation of Traffic Congestion
 - Reduction of Air Pollutants/Traffic Noise and Promotion of Health
 - Reduction of Transport Accidents and Improvement of Security
- Suggestions to improve planning and evaluation of urban transportation systems
 - Strengthening the coordination mechanism among the related stakeholder Institutions.
 - Promote Public Private Partnership (PPP) Implementation for mobility financial resources.
 - Capacity development of officers in the transport sector.
- Suggestions on policies and strategies to improve urban transportation systems
 - Extensive Development of Quality Public Transport Networks (Sri Lanka Railway, New Transit System and BRT)
 - Enhancement of Inter-modality (Development of Multi-modal Transport Hubs, Multi Modal Centers and Park and Ride Facilities)
 - Modernization of Sri Lanka Railway Main Line, Coast Line and Puttalam Line (Electrification, Direct Operation, Improvement of Existing Railway Facilities)
 - Development of New Transit Systems
 - Introducing a Bus Rapid Transit (BRT) System
 - Transit Oriented Development(TOD) in the Areas Surrounding Railway Stations
 - Construction of Arterial Roads to accommodate BRT

- Reformation of the Bus Operation Regime
- Improvement of Management of Railway Operation

- Suggestions on tackling issues and challenges to enhance sustainability of urban transportation systems in your country/ cities
 - Road Widening to Increase Road Traffic Capacity
 - Construction of Flyovers and Underpasses at Bottleneck Intersections
 - Arterial Road Development in Suburban Areas
 - Urban Expressway Network Development
 - Transport Demand Management (TDM)
 - Traffic Control Improvement
 - Secure Lands for Road Development (Road Network Master Plan)
 - Separation of Heavy Vehicles from General Traffic (Port Access Road)
 - Enhancement of Vehicle Inspection and Maintenance Programs
 - Low Sulphur Diesel Program
 - Promotion of Hybrid Cars and Electric Vehicles
 - Promotion of Natural Gas Vehicles
 - Promotion of Walking and Bicycles for Health
 - Education on Traffic Safety
 - Rehabilitation and Installation of Traffic Signals
 - Rehabilitation of Railway Signal System
 - Analysis on Causes of Traffic Accidents
 - Provision of Sidewalks and Pedestrian Crossings
 - Establishment of Urban Road Design Standard including Sidewalks
 - Improvement of the Security of Women and Children in Public Transport