TRANSPORT NETWORK LAHORE CITY

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ABSTRACT: The paper examines the adequacy and deficiency of transport planning in Lahore to recommend some measures for developing a sustainable urban transport system in the city. Urban transport is one of the most important sectors having a direct impact on sustainable development. The pattern of land use and the available transportation systems in urban areas play a critical role in determining the livability and sustainability of those urban areas. Land use planning and its integration with the transport planning is most ignored issue. Traffic management and roadway construction has not kept pace with the increased mobility needs of the society. Lahore city is being the cultural, intellectual, political and economic hub of the Punjab province, has experienced adverse impacts of traffic congestion and mismanagement.

Key words: sustainable, transport system, planning, congestion

INTRODUCTION

Lahore is the capital of the Punjab and is the second most densely populated metropolitan city of Pakistan. The population of Lahore is around 8 million. The city has an international airport and railway station which is located in the heart of the city. The city has a major access through the historical Grand Trunk Road (G.T. Road) and the Lahore- Islamabad Motorway (M-2) connecting with several small cities of Punjab. In last few years, several under passes and flyovers have been constructed in the city to ease traffic congestion during peak hours. Despite all these interventions, there is a need to develop a totally functional transport planning and the traffic engineering structure to improve traffic flows in the city. The primary relationship between the land- use and transport has unfortunately been ignored in overall planning and development of the city by the decision makers in the past which have adversely affected the mobility patterns and city developments.

The specific **objectives**of the study are:

1. To Study existing transportation system, development patterns and future prospects for the city
2. To identify gaps and constraints in existing transport facilities and services.

MATERIALS AND METHODS

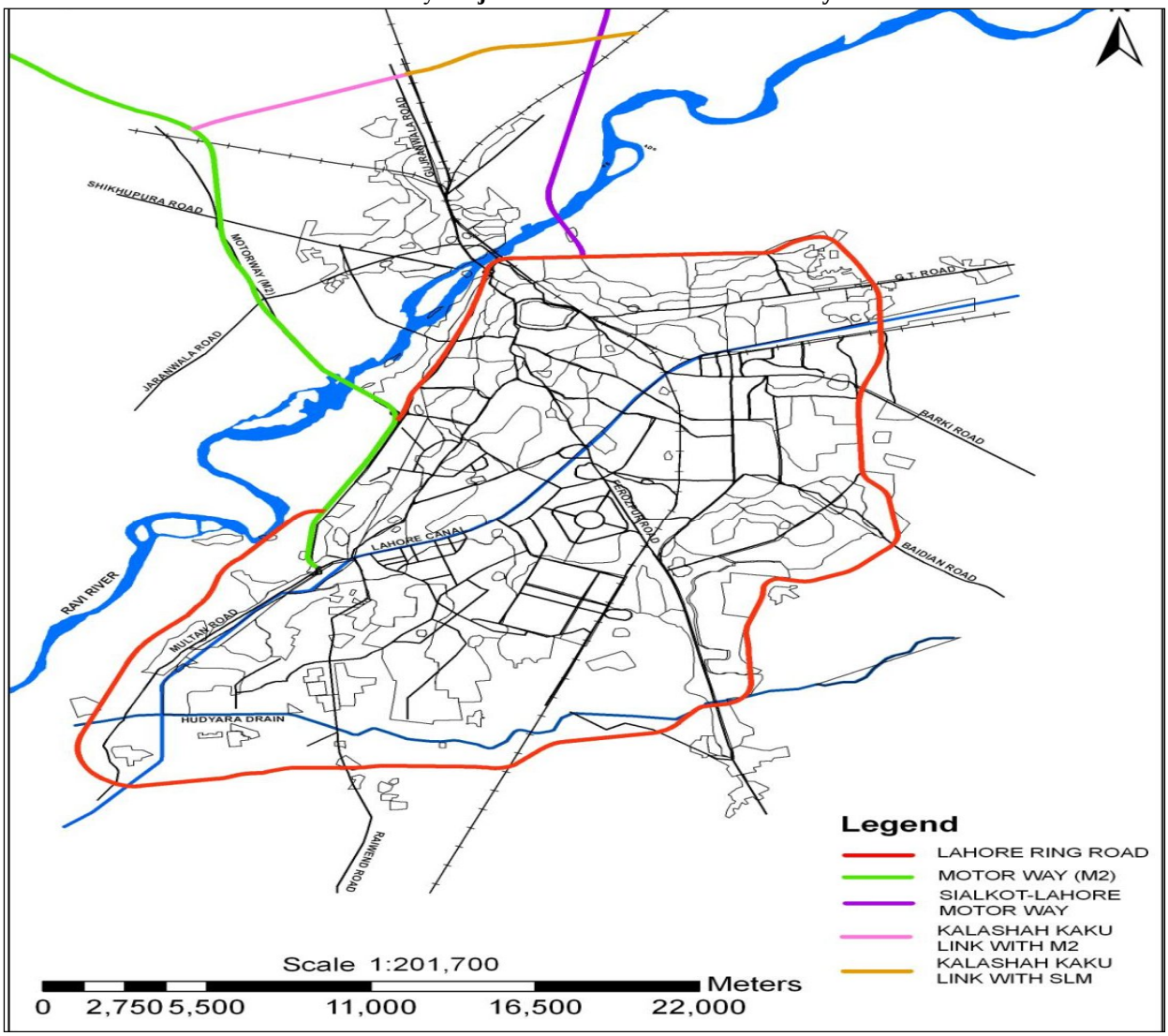
Basically a descriptive approach is adopted for this study. First of all current traffic system is discussed then highlighted the traffic problems. After that future ongoing major transport projects are discussed and finally suggestions are made for policy makers to avoid congestion and remove the flaws of existing transport system of Lahore city.

Road Network of Lahore: Although each major city of Punjab has a particular character, Lahore offers more opportunities to implement new policies because it is the social, cultural and political hub of the country. These indicators of sustainable transport will assist in assessing and evaluating the sustainability of current and future transport development.The transport demand currently adds up to 13.5 million daily motorized trips to work, shopping or recreation other than walking and this volume is increasing with a great pace. Over the past fifteen years the rapid growth in population and vehicle ownership in Lahore has steadily worsened traffic congestion. According to official figures, Lahore has the highest number of underpasses in Pakistan (www.lahore.gov.pk). The total length of roads within the district is 774.3 kilometers. There are six main roads in Lahore which connect the city to other cities of the country.

1. Multan Road
2. Raiwind Road
3. Ferozepur Road
4. Burki Road
5. Baidianc Road
6. G.T. Road.

Megacity Development Trend: The geographic location and economic potential of Lahore has drawn both labor and capital for many decades, but the city has never been in a position to maximize this potential for its own benefit. Little investment has been made in the city's infrastructure over the past two decades; traffic congestion is now unmanageable and constrains economic growth. New investments and new additions to the labor force are not optimally located in the city, resulting in haphazard development, a polluted urban environment, and, for many households, poor quality of life.

Motorway **Major Road Network of Lahore City**



Source: NESPAK

Urban Transport: A Constraint to Growth: With a current population of about 9 million, Lahore is growing at 3.32% per annum. The number of vehicles has phenomenally increased in recent years, resulting in heavy congestion, slower traffic, increasing road accidents, waste of fuel and person-hours, and environmental degradation. Despite a number of initiatives, such as introducing fleets of buses, the growing problems of gridlock and congestion now constrain growth, curtail investment, and reduce the city's competitiveness.

The transport network has been inadequately developed and maintained. This is exacerbated by the diversity of the traffic mix and lack of traffic and pedestrian discipline. In the past, 18-seater minivans dominated public transport services; however, rising incomes of the growing population have generated an increase in travel demand and the desire for higher quality transport. Properly organized routes and new services have been introduced, increasing willingness to pay premium fares and a desire for better services.

On 19 October 2006, the Government approved concept clearance for the Project, and early implementation of an efficient and effective RMTS for Lahore. The system is expected to

- Increase commercial and residential development;
- Minimize duplication and overlapping on public transport routes;
- Maximize ridership through an integrated multimodal system;
- Offer better service in terms of speed, frequency, and easy accessibility to reduce car and motorcycle dependency;

- Provide safe, secure, environmentally sustainable, reliable, and dependable Transport that meets needs and aspirations of this growing city.

Light Rail Transit (LRT): The study also prepared pre-feasibility for introduction of Light Rail Transit (LRT) System along Ferozepur Road. It was proposed a 27km long Priority (Green) Line, from Hamza Town to Shahdara, for immediate implementation keeping in view the traffic and transport demand of the city (A part of this track around 12 km is underground where as rest is elevated). Subsequently, in 1993 the World Bank funded "Lahore Traffic and Transport Studies," the previously LRT system study was reviewed and updated. The public transport demand in the original LRT corridor has already surpassed the capacity (JICA Study). Therefore, it was necessary to update the LRT findings and to investigate the implementation of a Lahore Rapid Mass Transit System (LRMTS) network.

The introduction of LRMTS in Lahore will bring a significant change in the urban fabric of the city and there would be significant land use conversion from residential to commercial, commercial to high level business and commercial activities supporting service sector of the city and industrial to commercial especially on the main stations on each track.

It is widely accepted that transport is becoming increasingly unsustainable in the absence of well integrated land use planning. An integrated land use planning approach is inevitable for efficient and sustainable utilization of LRMTS. Keeping in view of the land use planning principles there is dire need to establish institutional and legal & regulatory framework for proper development activities strengthening the LRMTS and land use planning pattern of the Lahore.

Sialkot Lahore Motorway (SLM) Project: Lahore Sialkot Motorway (LSM) is another mega project in road infrastructure that will strengthen the trade link between industrial town of Sialkot and provincial metropolis. This Motorway will link SambrialDryport near Sialkot with Lahore City east of NiaziChowkInterchnage on Lahore Ring Road. This motorway might extend uptokharian in the future in the wake of bigger project and will be effectively linked with M-2 through Kala Shah Kaku Lahore Bypass. Lahore-Kharian Motorway Project would be completed in three phases during the next four years. The first package includes construction of the motorway from Kala Shah Kaku to Sumbrial, covering a distance of 88 km at a cost of Rs.32 billion. The second phase envisages construction of the motorway from Lahore Ring Road to Kala Shah Kaku, measuring 12 km at a cost of Rs. 5 billion. Under the third phase of the project, 57 km long portion of the motorway from Sumbrial to Kharian will be constructed at a sum of Rs.14 billion.

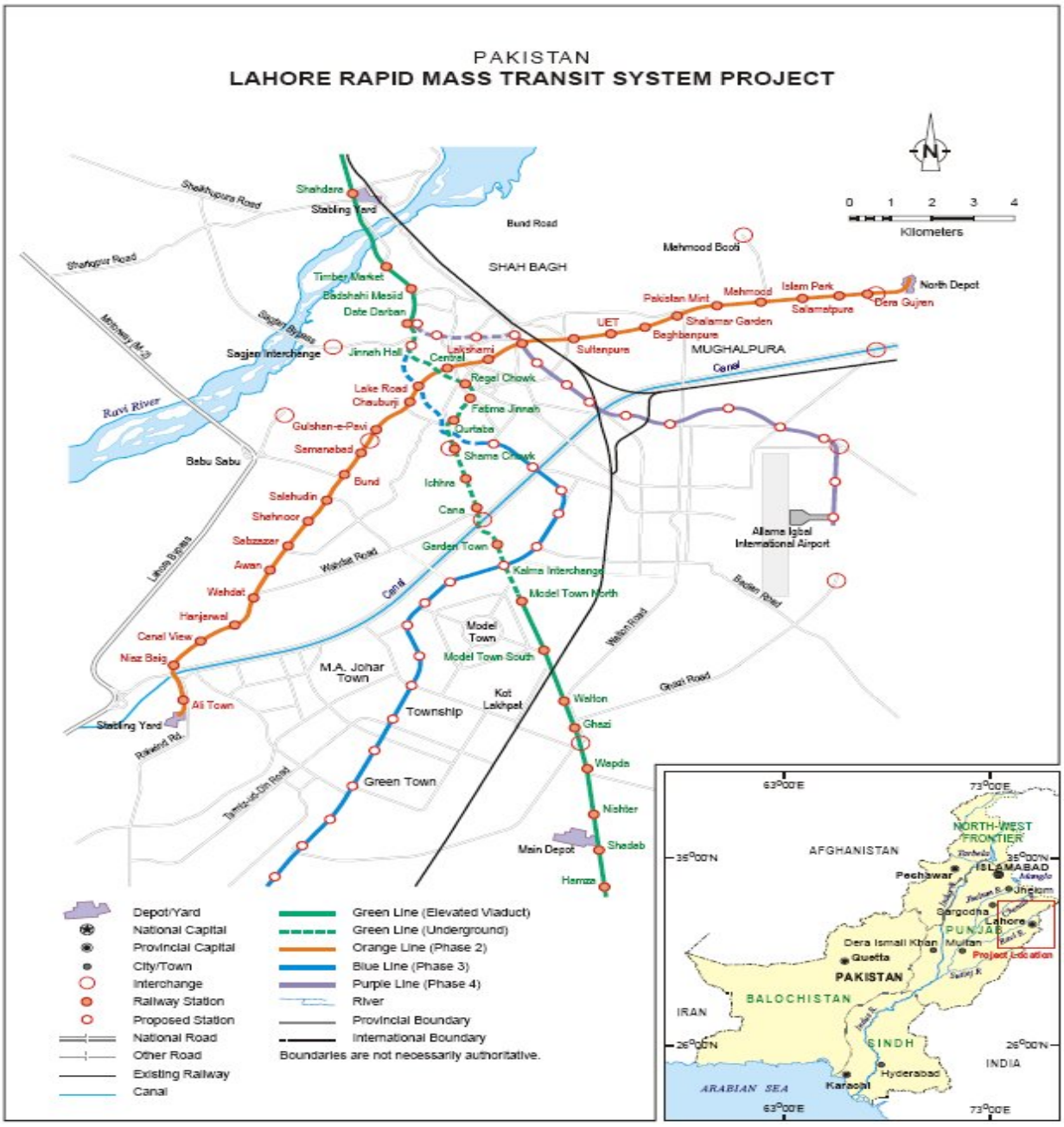
Lahore Ring Road Project (LRR): The Lahore Ring Road (LRR) Project is a large road project being developed by the Government of Punjab (Pakistan). The development of this project is intended to ensure efficient and speedy movement of freight and passengers, removal of traffic conflicts and the boosting of industrial development potential. The project includes the construction of a six-lane divided carriageway having interchanges and overhead pedestrian bridges at key locations along-with underpasses, flyovers and service roads.

The confirmed route of Lahore Ring Road is from BabuSabu to NiaziChowk, and then stretching straight up to MehmoodBooti, passing through GT road, Canal Bank Road, Harbanspura, Barki Road, AllamaIqbalInternation Airport, Ghazi Road, DHA Phase V & VII, Sui Gas Society, Ferozpur Road, to Hadiara Drain (South) to Halloki, Behria Town to Multan road near Marakah and to M-2 near NiazBiag. The whole project was divided into two segments namely Northern Loop (40 Km) starts from BabuSabu through MahmoodBootiupto DHA Phase V / Sui Gas colony & Southern Loop (49 Km) from Sui Gas Town through Halloki, MarakauptoBabuSabu. Construction on Most of the length of Northern loop is in full swing while Feasibility Study, Selection of Route & engineering Design of Southern Loop have also been completed while construction has yet to be started.

There will be one emergency lane on both the sides of the road. Almost 425,000 vehicles will pass through this road daily. All link roads with Lahore Ring Road will be improved and widened besides repairing all important highways of the city to cater to the flow of traffic. As many as 20 interchanges will be erected on the road to provide better transport facilities to the citizens.

Lahore Rapid Mass Transit System: Lahore Rapid Mass Transit (LRMT) System is a project envisioned to provide mass transit facilities to Pakistan's second largest city Lahore. A network of Mass Transit Corridors comprising four lines spread over 97 Km distance with 82 stations with Ferozepur Road (Green Line) as the Top priority Corridor have been proposed. This green line has a length of 27 km traverses from the south at Hamza town along Ferozepur road to Fatima Jinnah road, the mall, lower mall, ravi road, and after crossing the River Ravi ends at its terminus Shahdara. A total of 22 stations are proposed to be located along the green line.

Lahore Rapid Mass Transit System:



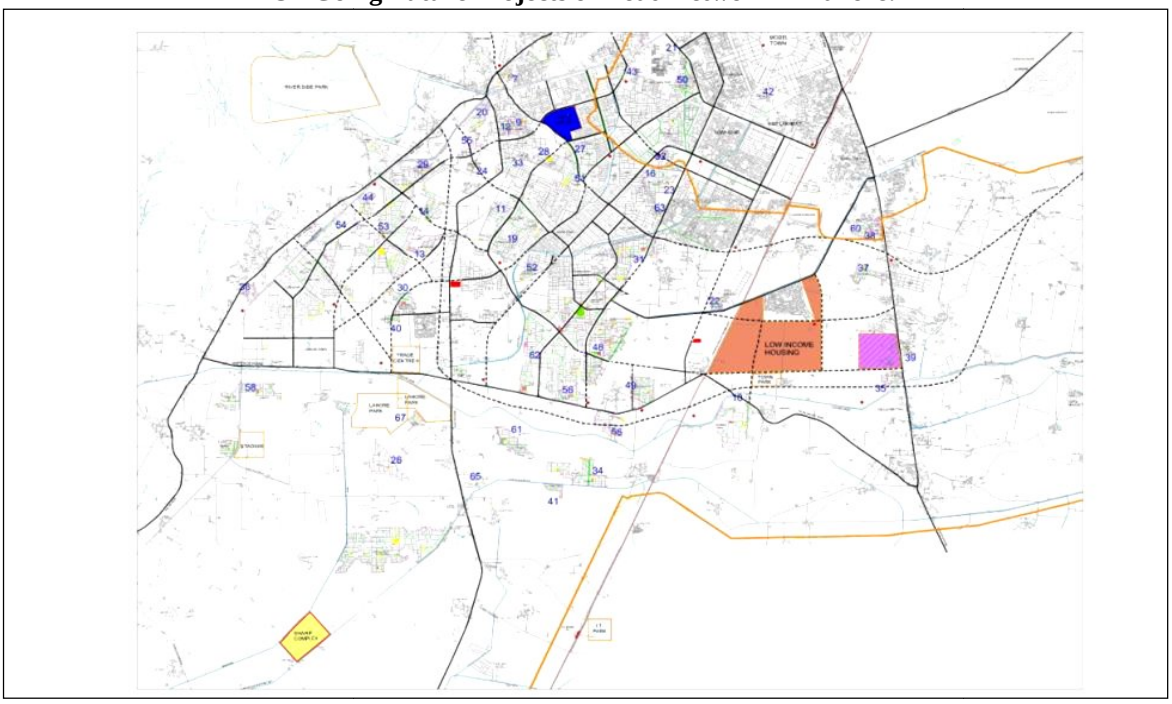
Source : NESPAK 2009

The proposed routes of the four corridors are as summarized below:-

Green Line: Green Line will start from Shahdara, Timber Market, Bhaati Gate, Lahore Museum, Regal Chowk, Ganga Ram Hospital, MozangChungi, Ichhra, Wahdat Road, Gaddafi Stadium,KalmaChowk, Model Town I, Model Town II, General Hospital and will end at Hamza Town near Kahna.

Orange Line: Pakistan Mint to Sabzazar via Shahnur, Awan Town, Hinjarwal, Niaz Beg, Canal View, Wahdat Road, Ali Town, Salahuddin Road, Bund Road, Islam Park, DeraGujjran Depot, MahmoodBooti, Salamatpura, Samanabad, Gulshan Ravi, Chauburji, Lake Road, LakshamiChowk, Central Railway Station, Sultanpura, UET, Baghbanpura and Shalimar Garden areas.

On Going Future Projects of Road Network in Lahore:



Overhead stations would be established. Initial estimates are that 245,000 people annually would benefit from the Orange Train. The length of Orange Line would also be 27-km out of which, 6.9 km long tracks would be underground, while 20.2 km-long would be overhead upon which six underground and 20 The central interchange station of Green and Orange lines would also be established besides linking these lines at Ring Road, railway station, airport, and Sports City.

Purple Line: The route length of Purple line is going to be 19 km. Purple line would start from Bhaati Chowk and end at Allama Iqbal International Airport. The line would pass through BhaatiChowk, Brandreth Road, Railway Station, AllamaIqbal Road, Dharampura, Saddar, Ghosia Colony, PAF Officer Colony, Al-Faisal Town, Rangers Head Quarter, ZararShaheed (Ghazi) Road and end at AllamaIqbal International Airport

Blue Line: The route length of blue line is going to be 24 km. The,, Blue Line will start from Chauburji and end at College Road, sources said, adding that from Chauburji the line would pass through MozangChungi, ShadmanChowk, Jail Road, Mian Boulevard Gulberg, Mian Boulevard Garden Town, Faisal Town and end at College Road.

This ambitious plan of the punjab government which require huge investment will take time for its realization and its implementation as per schedule seems a gigantic task in terms of finances required and construction involved. The routes being adopted for this mass transit system will mainly serve the high density zones of the city and recent development zones in south-ast& south-west particularly along Barki Road, Bedian Road, Raiwind Road,

Conclusion: The ever-growing city of Lahore has witnessed a number of transport problems due to rapid motorization. Intercity traffic along roads is growing at 7.9%, per annum which will double by 2014 at this rate. The past approach of road building and road expansion is still continuing as a remedy for traffic congestion and environmental degradation. Even foreign aid projects are implemented as slowly approach in certain domains of transport and environment. The situation is further problematical by the lack of an inclusive urban transport policy. Most prominent problems are:

- poor infrastructure,
- Deficient public transportation
- Weak traffic regulation
- Enforcement and road safety.
- Lack of professional and trained experts

- Disruption during construction and alternative routes for traffic diversion.

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