

# Inter- Linking the Layers of City to Achieve Sustainability- A Historical Study of Urban Design of Lahore

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**Abstract:** Urbanism is firmly connected with the diverse union of governmental, social and economic peculiarities of general public in a society. The significance of Urbanism for driving nature of assembled and regular habitats in urban design of Lahore is coordinated in this paper. This paper is principally focussed on chronicled investigation of provincial urbanism in Lahore concerning complex advancement of metropolitan plan. The general intercessions in characterizing morphological and authoritative metropolitan structures in Lahore have been examined and consequently the expected job of different layers and urban forms of the city in asset withdrawal is set up. The variety of spatial plan immensely affects asset sharing system in the city during Colonial period in India. An intriguing arrangement of suggestions through investigation of Colonial Period and present situations with key factors is set down to conclude the maintainability in usage of assets in Lahore. It is concluded in this paper an equilibrium in asset sharing is essential in order to incorporate the need based arrangement of administrations to all pieces of the city.

**Key Words:** Urbanism, Urban Forms, Spatial Growth , Management of City , Sustainability, Resource Sharing

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## INTRODUCTION

Urbanism completely connects with making subjective limit lines at city wide level. A typical concern for Urbanism is the connection among social and normal frameworks, urban communities and their neighbourhoods, manageability of asset utilization and civil rights in thickly populated metropolitan areas(Newman, 1999Engel-Yan et al.2003.Codaban and Kennedy,2008). A comparative methodology comes from Kevin Lynch (1981) who relates speculations of city structure to the parts of a tree and expresses that unlike the parts of the tree we know, they ought not wander in units. They ought to interconnect and uphold each other at many places'.

The figurative understanding of city is given to be a life form and administration distributaries as blood vessels(Golubiewski,2012). The methodologies for characterizing natural height of urban communities allude to biology, streams and biosocial factors. These methodologies characterize asset effectiveness instrument as well. Whenever carried out accurately, asset productivity drives might build seriousness, secure development and occupations, empower advancement, lessen asset prerequisites and permit further developed admittance to assets (Commission, 2015). Asset productivity has customarily centered

around creation and utilization (Weterings, et al., 2013). The essential components in asset utilization inside metropolitan biology are expressly modern development, metropolitan exercises and needs of populace.(Curie & Musango 2016).It is additionally basic to think about progressions of individuals and monetary drivers of rustic metropolitan relationship. With the execution of decentralization programs in numerous nations since 1990s, little metropolitan habitats have acquired potential in monetary development.

#### SPATIAL ARRANGEMENTS IN LAHORE

The standards of spatial arrangements applied in Colonial period had a viewpoint of monetary cumagricultural direction. The wide scope of capacity Metropolitan of Lahore has performed generally incorporate safe houses, security, social communication promoting and agribusiness in adjoining towns. The arrangement of pointers for potential asset trade not really settled through three to four significant layers. Biophysical highlights, framework and utilities have been dissected for their part in asset trade. The evaluation of potential in asset trade is significant for giving gauge comprehension of metropolitan settings; and furthermore to foster further approaches. The institutional hierarchy of surrounding towns and cities is answerable for the arrangement of assorted public administrations to occupants and monetary exercises.

The variation in engineering character of Urban forms is focused in this paper and settlements in British and current time span are considered. The decentralization and arrangement of sub metropolitan market hubs has been considered for potential in sharing of assets inside layers of city.

#### ROLE OF URBAN FORMS IN LAHORE

Out of the two philosophies to investigate Lahore the **historico-geographical** methodology as proposed by geographer MRG Conzen an examination of Lahore is developed through clarifying design and character of Urban forms. This methodology has likewise been approved by Alnwick (1969) and viewpoints are characterized in his original review taking site , work, townscapefinancial conditions and improvements into contemplations.

The urban forms are regarded as settlements in a city. The difference Lynch established between the class of ‘ physical form ‘ in relation to the ‘activities’ in a settlement form is significant to those actions including ‘enclosures, surfaces, channels , ambiances and objects as following pragmatic approach of Kevin Lynch to be the second analytic tool used in this paper.

The tangible characteristics an architectural design of a space refer to the class of objects and their interconnecting relations for their subsequent role as solids and voids such as the interiors of buildings or patterns of streets and blocks. The six distinct aspects of Lynch’s concise definition of urban form are:

- Physical Form
- Use/Activities/ Movement
- Control
- Perception
- Continuity/Change
- Movement of Information/ Materials

The key consideration of expanding Lahore in British time was to provide housing and administrative quarters to army and civil officers. This incorporated an innovative formation of road and infrastructure that swirled through existing buildings of Lahore . this road network connected the administrative offices as well as other public sector offices in the best utilisation manner. This new urban infrastructural planning done in British time period , however reflected complete regard to the

standing trajectories of the city ,stated in an overall account of Lahore city for the built and natural environment of the city is given by Goulding (2000) and this record interprets for Mall Road from its development period in 1851 to its present state.

## CHARING CROSS

Ground (1913) documents in Survey Plan of the Charing Cross that Charing Cross was formerly a triangular open site on the Mall Road. The present day Fatima Jinnah Road was linked offcentre to Mall Road. The road network was designed by Rai Mela Ram and *Chowk*-a junction of Montgomery Road , Egerton Road , Ferozepur Road and Mall Road ; the four main roads of Lahore , was developed. This geometrical arrangement of remodelling the Montgomery and Ferozepur roads by creating a North-South axis for circulation of traffic in city. This new spatial design led to semi- circular truncation of Ferozepur Road with the Mall Road.Later in 1915 Charing Cross was interposed as an open and semi-circular space. The Chowk was renamed as Faisal Chowk in memory of Islamic Summit held in Lahore in 1974.After 1960 , the traffic light signals were installed on Charing Cross ; thus utterly changing the aesthetics of space. The architectural character of buildings on Mall Road transformed noticeably in the 70 years pertaining to forms , facades , functionality and maintenance.

In post independence period, the expression "square" is equivalent with 'chowk. The main feature of such a space is that it should be open for movement ; both vehicular as well as pedestrian ;referring that a *chowk* should bear a solid connection between the public spaces with the flanking built structures . "Most squares are plainly characterized by the assembled structures which surround them and therefore are enclosed by the dividers of such buildings". While following any innovation in urban design of city , the expansion of populace and increased traffic these squares are no more the fundamental hubs of the informal communities. Significant examples of Squares are derived from marketplace in Greek civilization as to be , spaces for coordinating monetary, governmental and social exercises.

The urban character of Charing Cross went under another transformation with advent of commercial activities on Queen's, Egerton, Davis, Lawrence, and Montgomery Roads. A lot of new activities pertaining to economic objectives started occurring around the *Chowk*. The vertical development became an eminent architectural feature of Charing Cross after buildings like Al Falah Building (1964 ) and Wapda House (1967) were constructed here . Similarly the monument Summit Minar (1977) made verticality even more noticeable on the site.

## MALL ROAD

The Walled City and urban forms developed around it in 19<sup>th</sup> and 20<sup>th</sup> centuries have gained central position in urban design of city now. The adjoining Circular Road has emerged as a central commercial hub for the province of Punjab. Walled city as initially established to be an amalgam of housing facility and relevant functions has now changed into an eminent commercial center. The transformation in urban and social fabric of Walled City and surroundings has asserted a major dependency of population of whole province of Punjab on the Mall Road as it houses all major administrative , health care , educational and recreational facilities supplied around it.

Mall Road is nucleus of city providing administrative, commercial and trading services to the population of Lahore, as it is the capital city of Punjab .The circulation network of mall Road is not extended for peripheral regions of Lahore. The functional or nodal regions are therefore restricted to closely located areas. The solution for sustainable services exchange can be achieved by developing

functional peripheral nodes in convenient circulation with main city centres. The solution for sustainable services exchange can be achieved by developing functional peripheral nodes in convenient circulation with main city centres.

## URBAN SPRAWL OF LAHORE

An arrangement of urban developments with low density and vehicle free circulation located on the periphery of a city is known as urban sprawl, states Squires (2002) The undefined outward extension of a city with low density of residential and commercial developments is sprawl. The added urban activities and land uses are also unhealthy for efficient resources available in the city. In 1998 a large portion of rural population in Pakistan lived in over 1000 settlements with more than 5000 inhabitants which is the number and quantity of urban centres in most of other countries. 1483 settlements in 1972 census were considered as urban centres in Pakistan. But these settlements were not considered as urban centres in 1998 census since they did not have a municipal government.

The Lahore Development Authority encompasses over 2,300 sq.km covering most of District Lahore ; The ButcherKhana Distributary however is not included in the domain of LDA. Tehsils like Ferozewala are included in LDA domain in south and south east directions.

The population of Lahore has almost doubled over last 12 years from 5.14 million in 1998 to about 9 million and is expected to cross 11.25 million by 2020. The city was bounded in walls 150 years ago but now is expanded up to Raiwind on one side and Bedian on other side. Sprawl occurred in two major forms

- Commercial sprawl ( shopping centers at large distances from inner city)
- Residential sprawl (single family detached houses with low density) as a consequence of the automobile dependency. This addition in automobiles resulted in traffic, pollution and petrol consumption

## DISCUSSION

The essential urban and trade purposes have been incorporated in development plans exercised by Archeology Department recently as in case of ShahiHamams Project done in Walled City where as Board of Revenue , Communication & Works (C& w) and Walled City Lahore Authority (WCLA) worked in collaboration . However in previous development plan for the shifting of bus stand and removal of commercial units from Circular Road was a response to decay caused by air pollution to heritage sites ; however all plans of shifting the business centers in Walled City around mall Road Lahore were not successful because of the disagreement by local traders. Similarly , shifting of general bus stand to Bund Road from current location , flanking Mall Road , was also not materialised.

The growth pattern of housing schemes in Lahore was within the corridor between Multan Road and Railway Line located in south west of city till 2017. Towards South of Lahore , the housing schemes were developed across Defence HosuingAuthority. The record and documentation of land use done after 2019 however projected a new horizon of city development through low cost housing schemes as providing administrative and public health services within the radii of housing schemes. The provision of in house services in new housing schemes being built in northern and western parts of Lahore as in

RenalaKhurd ,Chuniyan and Gujranwala will substantially reduce load on main road networks of Lahore. In reference to land use dynamics of urban development a proportion in provision of infrastructural and administrative services is critically significant as incorporated in New Development Plans (2020)

Most of the new housing schemes are being developed towards south-west of the city, in the corridor between Multan road and railway line. The plots in these schemes are lying vacant, for speculative purposes, the development purposes are continuing further south, even across Defence Road / Hudiara Drain, and are approaching Raiwind Town. This trend is resulting in piecemeal expansion, costlier services, missing links and trunk infrastructure, low densities and wastage of primal agricultural land. The trend needs to be curbed and further developments south of Hudiara Drain/Defence Road must be discouraged. There is a need to update and computerise land records. Present land recording is keeping obsolete facilitating malpractices such as claims. Comprehensive zoning and sub-division regulations are also lacking.

Commercial and trading activities are concentrated in Central Business District causing congestion and strain on road network. Inter-radial connections are missing. The traffic signals are inoperative and signage system is inadequate. Traffic Police suffers from inadequate strength and needs further training.

Educational , recreational and medical facilities are highly insufficient in the northern and western parts of the city. There are 2250 hectares of developed open spaces in Lahore (i.e. 0.42 ha per 1000 population).

## ANALYSIS

Developing low cost housing schemes in Lahore, South West corridor and flanking towns like Chuniyan , RenalaKhurd and Muridke as initiated by current government are a promising resolution to the challenge of insufficient resources sharing mechanism that existed previously. However , a directly reflective infrastructural design must be acquired while configuring provision of facilities to population living across all ends of Lahore.

The new Development plans have asserted progress in the city for a conducive environment in urban environment of the city as was discussed during the Interviews held with the officials of Lahore Development Authority (LDA) , Central District Government (CDG) and Tehsil Management Authority (TMA) The prominent projects enlisted in this development plan are improving the traffic flows in city ; developing the buildings byelaws ; regulations for new housing schemes and rules for commercialisation..

The unplanned expansion of Lahore in response to high demand of housing is a result of migration of population from adjoining towns and villages , who shift here for employment and education. The daily level congestion of traffic across major urban centers on Mall Road are due to administrative, health and educational pursuits.

Decentralization of commercial activities in the local areas / housing schemes will substantially decrease the dependence on existing Central Business District of Lahore. As proposed earlier that development

pattern of housing schemes in south west corridor of Lahore must be integrated with educational , specialised health and recreational facilities. The CBD of provincial government as already taken up the projects of vacant lands being utilised to licensed commercial ventures will further balance the provision of commercial activities across Lahore.

For achieving sustainability a disaster proof master plan has to be devised for development of Lahore and this must be executed in collaboration with a mutual academia -industry network in construction and development industry in country.

Interlinking the public transport to all corners of Lahore is an important remedy to strategize the accessibility of public. This will also include development of roads through mastered infrastructural design for Lahore as well as its peripheral settlements.

## RECOMMENDATIONS

It will be extravagantly beneficial when the current system of managing and providing low cost housing in various parts of Punjab will be completed and similarly the local governments will attain their authority to develop the smaller settlements.

The micro and macro level management of transport sector through privatisation as well as joint ventures of public-private partnerships must be executed so as to safeguard the means of transportation and thereby reduce the single vehicle traffic load in overall traffic congestion of the city. The long term solutions pertain to a highly effective design of road networks and allied infrastructural services which not only provides OverHeads , Bridges , Underpasses , Pedestrian Paths but also incorporates missing links of main arterial road system of the city.

The organic trend of city expansion indicates south western locations of Lahore. An area of 8000 hectares is available and lies under utilised so far. An effective urban planning based on standards and international codes for sustainable living quality for inhabitants will not only make these new housing facilities a solution to downsize the congestion in central Lahore but will also become an effective habitat for population.

The on going control system on land use and management devised by government through Central Business District, Government of Punjab are active initiatives corresponding to uniformity in building rules and regulations as well as environmental safety of city.

The Land Readjustment Technique implying Re-Plotting of land for urban development as also practiced in Low Cost Housing Schemes and other development projects of government is an important tool in due course of urban development of Lahore.

The recommended priorities for a sustainable urban development plan of Lahore are addressing the demographic requirements, affordable and regulated housing for all income groups and environmentally responsive infrastructural and urban design for Lahore. To conclude , the aforementioned solutions in response to requirements of population for an adequate and balanced

once will be asserted in letter and spirit will achieve a sustainable resource sharing mechanism across Metropolitan of Lahore as a model for all other cities of Punjab as well as Pakistan.

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