

## Mass Rapid Transit System Related Urban Development of Core Areas in A Colonial City: Case Study of Kolkata

<sup>1</sup>Ar. Abhiroop Das, <sup>2</sup>Dr. Sanjib Nag

<sup>1</sup>Assistant Professor, Om Dayal College of Architecture, Uluberia

<sup>2</sup>Professor, Department of Architecture, Jadavpur University, Kolkata, India

Email: <sup>1</sup>abhiroopdas@rediffmail.com

### Abstract

Mass Rapid Transit System (MRTS) has created a significant impact on urban development in the core areas of colonial cities and has been running along important movement corridors, especially in and around these areas resulting in a deterioration of the overall spatial or physical environment. As a result, these areas require immediate intervention to rectify the problems, as well as to arrest any further deterioration. This again requires a research work to understand these developments in selected core areas of a city. Accordingly, in this paper an attempt has been made to understand the impact of MRTS particularly in the core areas, in a structured format.

**Keywords:** Mass Rapid Transit System, urban development, core areas, colonial city

### INTRODUCTION

**Mass Rapid Transit System (MRTS):** is one of the most convenient modes of public transportation systems, throughout the world, introduced to solve the intercity transportation problems. At present MRTS has been operating in more than 100 cities of the world and is likely to be introduced in many more cities, in near future.

MRTS with increased accessibility and mobility, gradually bring dynamic changes in the activity patterns, distribution of

people and land use etc. The impact of MRTS can be felt in the form of transformations in land use, built forms; rise in land values and also with increase in population and employment density. (Ashtt Rashmi., 2009).

It also acts as a catalyst for new urban development, which basically triggers a dynamic spatial transformation and also gives a fillip to economic activities. (Karthigeyan D., 2008).



Figure 1: Mass Rapid Transit System.



Figure 2: MRTS acts as a catalyst for new urban redevelopment.

(Source: www.google.com, 2019)

**Urban development:** is the process of growth of an area, situated in a city or a town or having the characteristics of the same. It

has spatial or physical attributes, as well as, environmental, economic, social, cultural and political manifestations.

Urban development happens by growth into deserted areas and/or the restoration of putrefying regions. Large cities, towns and even small neighbourhoods do not spring up overnight. They are the result of careful planning by civil and design engineers, project managers, architects, environmental planners and surveyors. The integration of

these disciplines is known as urban development. (A.Brooks, 2015).

The spatial/physical form of urban development can be either a new development on a virgin land or a renewal on an existing fabric.



**Figure 3:** Planning and growth of cities.  
(Source: www.google.com, 2019)



**Figure 4:** MRTS acts as a catalyst for new urban redevelopment.  
(Source: Author, 2019)

**Core Areas:** Essentially the focal points of cities which have a tendency to have high thickness of populace. They have a high centralization of spatial or physical improvement. A central business district (CBD) or a core area is the business and business focal point of a city. In urban areas, it is usually synonymous with the

city's "money related region". Geologically, it frequently matches with the "downtown area" or "downtown", however the two ideas are discrete: numerous urban areas have a focal business locale found far from its business or social downtown area or downtown.



**Figure 5:** Central part of a city or a metropolis.  
(Source: www.google.com, 2019)



**Figure 6:** Important commercial and trade.  
(Source: www.google.com, 2019)

**Colonial City:** areas emerged in social orders that fell under the control of Europe and North America in the early extension of the industrialist world framework. The colonial relationship required modifying the efficiency of the provincial society all together that its riches could be sent out

deeply countries, and frontier urban communities brought together this capacity.

Their major social part was to house the offices of this unequal relationship: the frontier political organizations -

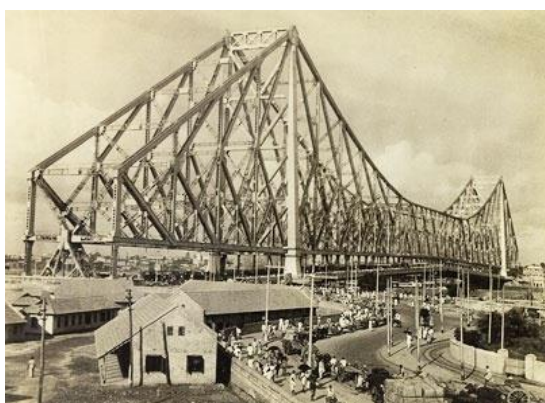
administrations, police, and the military - by which the centre led the province, and the monetary structure - banks, dealers, and moneylenders - through which riches depleted from state to centre.



**Figure 7:** Colonial city of India.  
(Source: www.google.com, 2019)

Kolkata formerly known as Calcutta is a linear city stretching north-south with river Hooghly on west and wetlands on east. It is a city unparalleled in the history of urbanization for its problem, as well as, for its resilience and vitality.

It grew up rapidly in the 19<sup>th</sup> century accompanied by the development of culture that fused European philosophies with Indian tradition. Kolkata has to assimilate strong Western influences, as well as, to overcome the limitations of its



**Figure 9:** Kolkata born about three centuries ago.  
(Source: www.google.com, 2019)

## DISCUSSION

With reference to the literature study, it is evident that, with the rise in the MRTS,

Colonial India is the part of Indian subcontinent which was under the control of European colonial powers through trade and conquest. The Macedonian army of Alexander the Great was the first European power to arrive in India.



**Figure 8:** Colonial city of Kolkata.  
(Source: www.google.com, 2019)

colonial legacy, in order to find its own unique identity, in the midst of ongoing urban development process.

At present, Kolkata is recognized as a global city, with rapidly emerging urban development. As a result, the key challenges currently confronted by Kolkata are: rapid growth of informal activities, rapid and uncontrolled building constructions and deterioration of the old city fabric lack of regulations to control development.



**Figure 10:** Kolkata recognized as global city.  
(Source: www.google.com, 2019).

the impact felt on the urban development in the core areas of cities is extremely effective and creates certain factors that

act as attributes in the change of the societal living as well as the future developmental planning scopes.

Most of the cities have seen increasing interest in residential and business developments in the areas directly served by rail transit lines. (Ratner & Geotz., 2013).

Central areas provide more favourable conditions that tend to amplify the positive impact of rail transit on land development. (Wang, Chen., et.al).

The majority of the well-known metropolitan urban areas, where MRTS has been running, particularly in the created nations of the world, have demonstrated that, because of the monstrous size, the change in the openness factor and the subsequent expansive volumes of individuals getting arranged off at the hubs, these MRTS have made huge impacts on the general urban structures of these urban communities, bringing about certain urban changes, in spatial / physical Urban Developments.

For the most part in the developing nations, the developments have been generally uncontrolled, sporadic and piecemeal in nature, making aimless and turbulent spatial / physical condition, fundamentally affected by unregulated market forces especially in the core areas of cities. Consequently, intercession is important to amend this lacuna and to capture further decay of this spatial or physical condition.

Additionally, in the Indian setting, especially in Kolkata, this Impact of MRTS and the subsequent Urban Developments have been very huge and

forcing in nature. In continuation, it was likewise discussed about that, in these Metropolises, particularly in the created nations, because of auspicious acknowledgment and expectation of the imminent circumstances, this issue of the Impact of MRTS and Urban Developments has been appropriately tended to and promoted.

Nonetheless, if there should arise an occurrence of Kolkata, it has been found that, this issue has never been appropriately tended to, till date. This has brought about such developments of the city being uncontrolled, chaotic in nature, making erratic and disorderly physical conditions.

In colonial cities like Kolkata, any interventional push to correct this emergency and to capture any further weakening of their physical surroundings, some particular and related Urban Developments Guidelines must be planned on crisis premise, to direct all such comparative advancements, and also, to underwrite this colossal MRTS incited potential for Urban Developments especially in the core areas in future.

It has been observed that there is significant rise in the movement pattern both vehicular and pedestrian near the Metro Rail Station areas especially in cities like Kolkata, and also the movement loops get even more congested with increase in informal sectors that developed in a chaotic manner in feeder routes, that are running perpendicular to MRTS within an impact area of these station areas, thereby minimizing the hygienic sense of the overall spatial or physical developments.



**Figure 11:** Significant rise in the movement pattern.



**Figure 12:** Significant rise in the movement pattern.

The significant rise of the overall land values as well as floor areas with upcoming new developments along the movement loops and the transformation of the locations of the

commercial activities especially formal and informal sectors have drastically increased in and around the Metro Rail Station Areas of the cities like Kolkata.



**Figure 13:** Upcoming new developments.



**Figure 14:** Formal & informal commercial activities.

Due to the increased demand of commercial as well as retail spaces, there is high usage of Floor areas and significant rise of the overall Land values that took place in the immediate surroundings of metro station areas of Kolkata.

and the variation that one can visualize, emphasizing on the distinct nature of the urban structure. Few portions of the city of Kolkata are still under the conventional influence of the colonial architecture whereas the growing urban cores are much more technologically developed and modern with drastic change in skyline of the overall urban forms.

Another change that can be vividly seen is the difference of the style of architecture



**Figure 15:** Variation in style of architecture visualized.



**Figure 16:** Drastic change in skyline.

With rise in MRTS, the expansive growth affects and contrasts the colonial essence

of Kolkata, especially in the core areas. The change of the fabric of the general

urban structures, modification of prior space form sectional relationships with customarily rich elevation features and quick concealing of all the previous empty terrains, particularly along the movement loops forces the old structures to be back-dated and in many cases dilapidated. Hence, this results in a lot of reconstruction and conservation.

The age of genuine difficulties and emergency, regarding the general image of a city, with solid verifiable centrality and rich urban legacy, this is compared of being assaulted, under the weight of the continuous changes.

Be that as it may, in urban areas like Kolkata, these mediations depend on customary urban arranging worldview; thus far have neglected to address the circumstance appropriately. In this point of view, the said explore work would be embraced and an endeavour would be made to completely comprehend the said affect, essentially from an urban design point of view with a specific end goal to control these chaotic improvements.

Thus, instead of the conventional methods of planning and development, new ways of improved technology and sustainability must be introduced and put to effect in these projects so that along with the cost of the development, the urban pattern of the area is also affected to the least. Hence the vision of a utopia doesn't get disrupted by a temporary dystopia, which has a higher chance of getting mal handled due to lack of time or slow pace of development of these areas.

It has additionally been seen that, in this sort of circumstance, which is at present, exceptionally basic in the vast majority of the urban areas of the creating nations of the world, similar to Kolkata, any interventional push to amend this emergency and to capture any further weakening of their physical surroundings,

some particular related Urban Development Guidelines are promptly required to control all such comparative improvements, and, to benefit from the colossal potential for urban advancements, produced because of this effect of MRTS, in future.

## CONCLUSION

In the perspective of this introduction, this discussion and this conclusion of the research work, considering MRTS related urban development of core areas of cities, it is evident that MRTS creates significant impact on urban development process of the core area of cities like Kolkata.

However, in order to understand the said impact with more clarity, further research work has to be carried out on this subject matter, considering core areas of city of Kolkata. This would further initiate on site surveys of existing core areas of this city and would yield datas to analyse these areas based on responsible parameters and sub parameters.

In future, this would help to plan necessary interventions in these areas, and to design alternative proposals, in order to guide these developments in the desired direction, so that proper gains could be acquired from them.

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