

Economical Growth and Its Impact on Urban Road Development: The Case in Dhaka City

Rumana Rashid, Jasmin Ara Begum, Ruba Rummana, Iftakharul Amin, Miraj Chandra and Tithi

This paper studies the approach of the Panthopath is promoting sustainable urbanization. Panthopath brings together natural growth and change in culture in terms of municipal area covered by commercial, residential urban development. This paper identifies viable, sustainable urban development strategies promoted by a highly dense Dhaka city in order to contribute both to the mitigation and adaptation to the growth and change. Special emphasis is given to strategies than draw east-west linkages with local economic development and improved urban livability. The result shows that the Panthopath road has created a great impact on land use pattern of the Dhaka city. It has created a greater opportunity for the local people. The adjacent community as well as the land owner gets the direct result of its financial potentiality. This paper provides an integrative approach, successful precedents, and draws lessons for actions plans on urban form, land use, housing, mobility, energy and local economic development tools.

Key Words: growth and change; sustainable urban development; urban planning; urban design

1. Introduction

The approach of this study is taken by the Urban Design Studio of Architecture department of Ahsanullah University of Science and Technology to introduce sustainable urban development through a growth of road side development analysis. This paper focuses on process and methodology, growth changes in urban context and its results, March 2009.

The urban form characterized by its built environment, surface roughness, urban geometry, ground surface and property of surface material can alter the urban microclimatic profile and influencing the climatic elements (Barbiratto, 2005). Economic progresses in many developing countries results to rapid expansion of cities. The developing Dhaka city usually marks with physical developments including buildings, roads and infrastructure system. The development lead to in balance between land availability and land demand consequently, results to increase land value and changes in land use in urban centers (Jono; Eko, 2008).

Figure 1: Road side development of Panthapath



2. Methodology

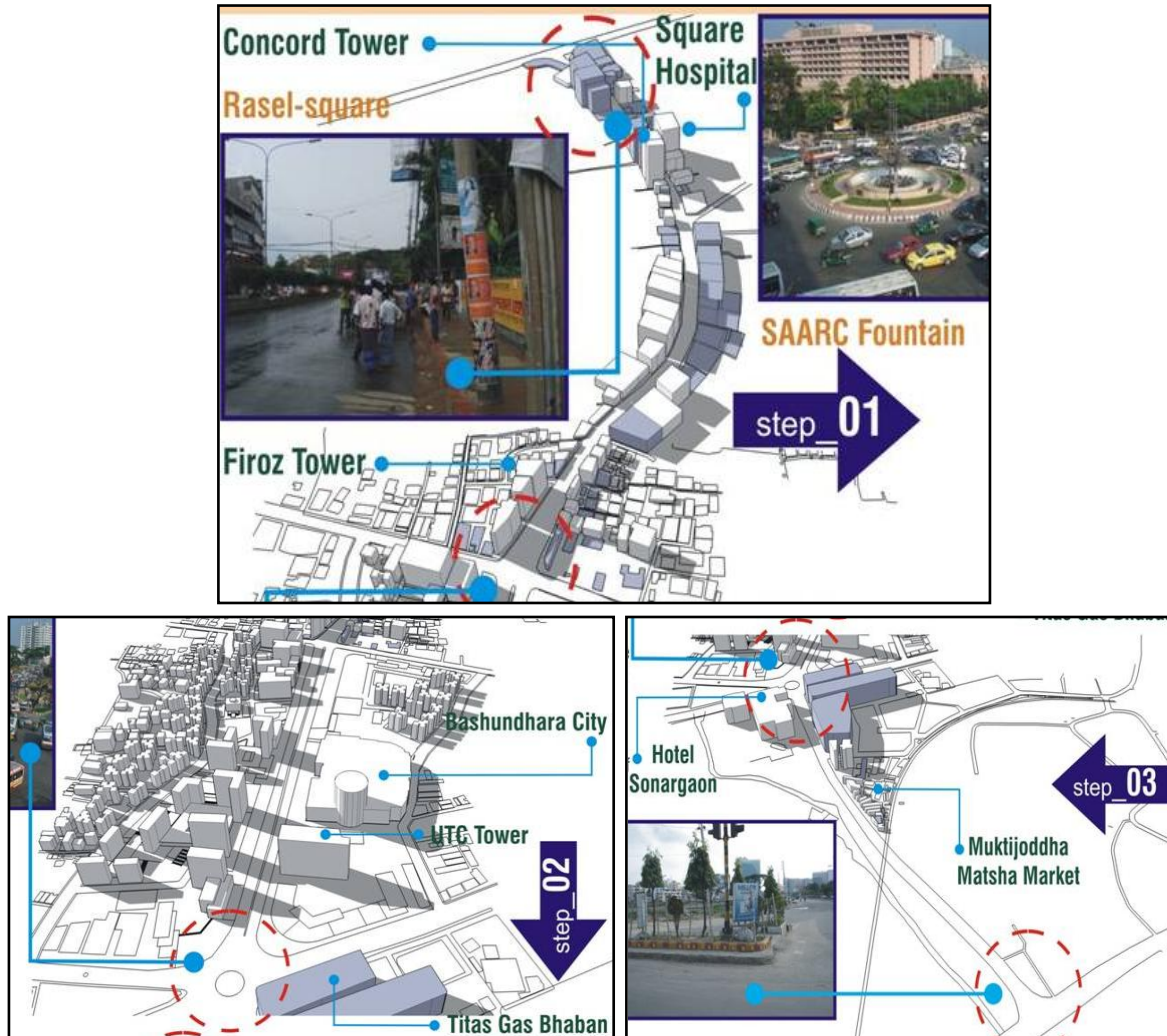
By making a field study in march 2009 we have make a field book where we have input our over all survey, road measurement, photographs. After that we have worked with a map where we have transformed the field book to raw map. In this case we have used the Google map, ward map of Dhaka City Corporation as our reference. Data were collect through questioner's survey of local people.

3. Growth And Changes In Urban Development Of Dhaka City

The locality is known as Green Road Panthopoth. It was once used as garden by the Nawabs of Dhaka, from where it derived its name. The proposed site is a very big chunk of land measuring 10.3 acres approximately sited at the corner of Green Road Panthopath.

The Begunbari Khal, one of the oldest canals, in Dhaka was converted to a box-culvert and arterial road Panthopath was paved along the natural depression in early 90's. After developing Panthopath as one of the major transverse roads the transformation on both sides has thrived and sudden backyards of the houses within a residential zone evolved as a commercial spine of the city.

Figure 2: Urban growth of Pathapath road side development



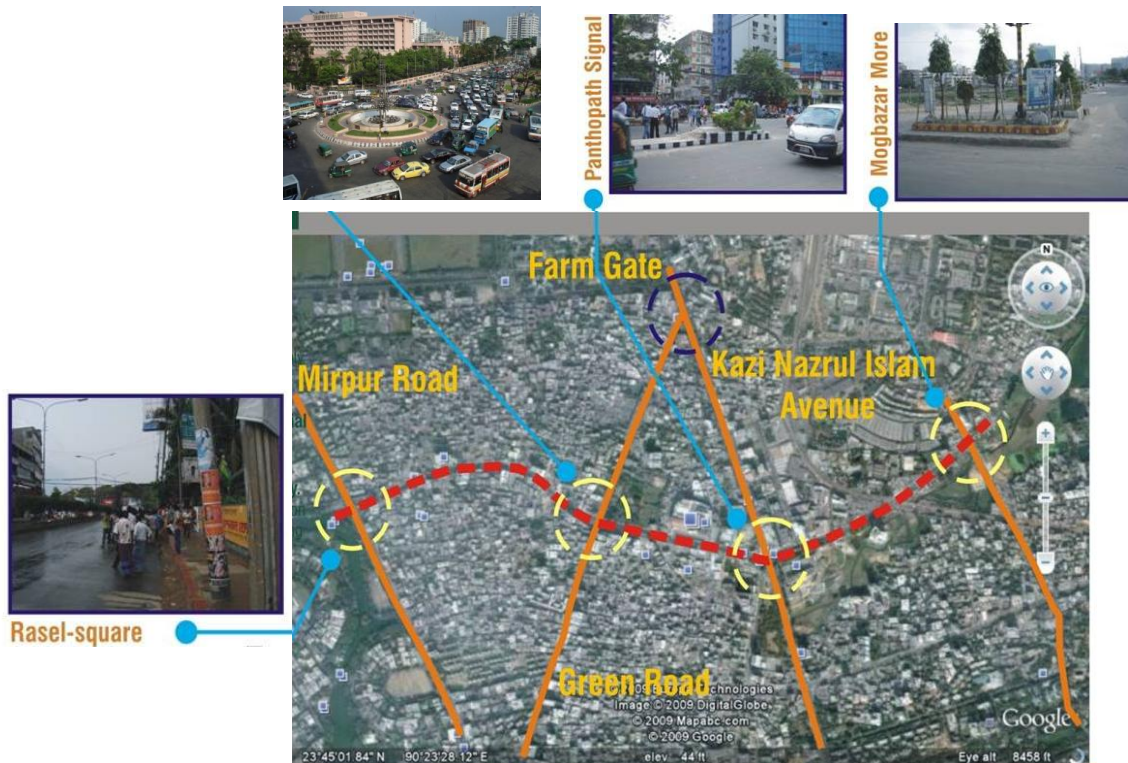
Panthopath is now one of the leading commercial streets for the city dwellers. This paper tries to understand the evolution of the Panthopath from waterways to one of the busy roads of Dhaka city. It also tries to reveal the morphological transformation of the adjacent areas and the forces that been shaping the morphology itself.

4. Central Location

Logically, presence of attraction can influence the presence of people, but it cannot influence the fixed configurationally parameter which describe location. The transformation of the panthopath as a major commercial street within a very short period of time perhaps had been preferred by the geographical centrality of the area. Its central position within the city geometry confirmed the proximity to the second CBD. Kawran Bazar and high class residential area like Dhanmondi

moreover the availability of surrounding residential area like Kalabagan, Rajabazar, Dhanmondi, Farmgate etc. within the catchments area made this area to be potential for developing as a commercial road with non-residential activities. All these location aspects exerted multiplier effect or more transformation process of Panthopath.

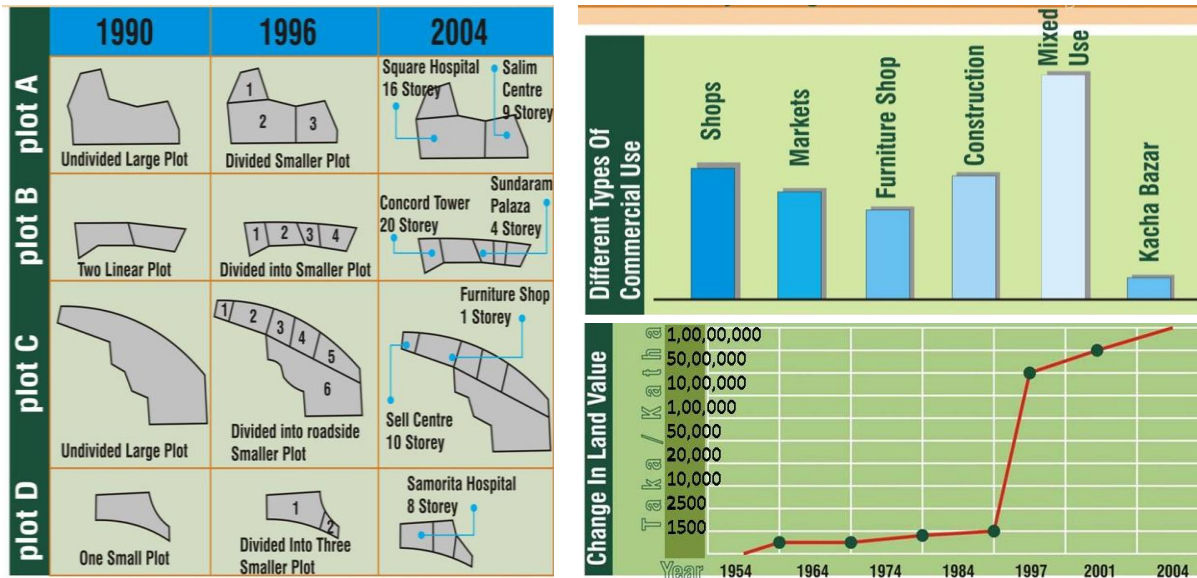
Figure 3: Location of the Panthopath



5. Transformation Of Land Use

It has been reported by the residents that the decision of Panthopath had been finalized before 1990. Since then roadside small plots were amalgamated to form larger plots with the speculation at developing large scale commercial facilities. Hence by 1990 most of the small plots were unified and formed undivided and larger ones in size. However, in 1996 after the development of Panthopath house large plots were sub-divided in a number of plots as prevision conception of mega lack of investment initiatives. Even the comparatively small plots (like road side plot D) were also divided into smaller parts. At present those plots are mixed use in the from of shops, corporals offices as well as hospital. These mega projects are being pushed in the economic plots of Panthopath iin the dynamics of present land market and legislative weakness of the controlling agencies-like RAJUK.

Figure 4: Development of plots (left), Different types of commercial use (up right) and Change in land value with road development (down right) in Panthapath



It is also clear that there is a drastic change in the development pattern and built form, a four story market and 20 story mixed use and 1 story temporary furniture shops and a 10 story office building is developed side by side. There is also a change in vertical land use as official space and function look place on top floor on the built form that is more than 15 to 20 storied high. Therefore it is clear that total Panthapath is transformed as commercial and mixed use area. Following discussion tries to unveil some of the major causes of the transformation in order to predict the future situation as well as some possibility of applying development control keeps tie liability of inner plots well as that plots along Panthapath.

6. Economical And Financial Benefit

Accessibility to adjacent plots from a major thoroughfare usually generates high business and commercial activities because their increased land value. Thus financial tone fit of the location as well as spatial position accelerate the morphological transformation of Panthapath. The owners of the surrounding residential plots were agree to sell or developed their plots as a mixed-used high rise for better financial return. Thus the adjacent community as well as the land owner get the direct result of it's financial potentiality.

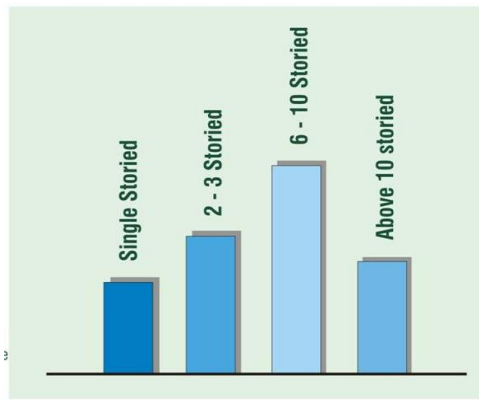
7. Negative Aspect

- This road was built by filling the canal, which was part of the HATIR JHEEL canal. Illegal settlement has occupied most of the pedestrian road.
- There is proper service for road crossing.
- Maintenance of the road is very poor.

- Road side parking
- Poor drainage system
- Lack of dustbins

Figure 5: Ratio of different height of buildings in Panthapath

Number of building	Count
Single storey	12
2-5 storey	16
6-10 storey	26
Above 10 storey	14



8. Positive Aspect

-Panthopath road plays an important role in the city connectivity.

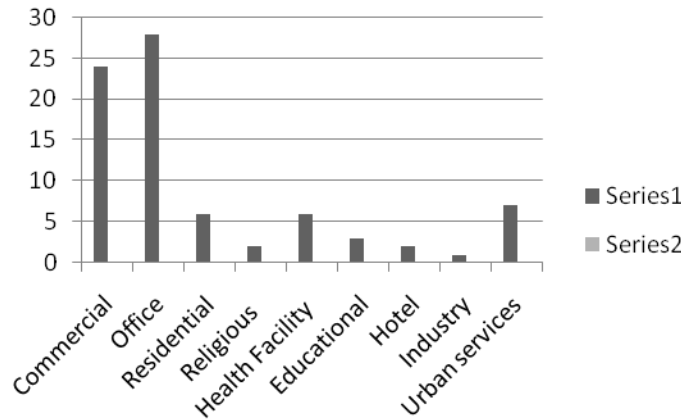
- It is the major EAST-WEST connection within the city.
- Panthopath road has created great impact on land use pattern.
- It has created greater opportunity for the local people.

For example:

- Two major hospital is located here
- The largest shopping mall of South Asia is located here named Boshundhora City.
- After motijheel business area only here we can see the amount of important high-rise building, which will leave a great impact on changing the CBD.

Panthopath road proposal was made during the government at 1979, but the construction work started during the government period of 1988. Government acquired private lands for this purpose. Before Panthopoth road was built all these area were low lands and mainly water bodies. Even Panthopath was not considered as the main city area at that time, they were counted as the peripheral area of the city.

Figure 6: Profile of different type of building development in Panthapath



The traffic mode of Panthopath changes due to time to time according to different purpose.

Figure 7: Traffic flow in Panthapath in different period

Traffic Flow	
Time	Traffic Mode
08:00 am - 12:00 pm	Heavy Flow
12:00 pm - 04:00 pm	Moderate Flow
04:00 pm - 08:00 pm	Heavy Flow
08:00 pm - 12:00 pm	Moderate Flow
12:00 pm - 04:00 am	Light flow
04:00 am - 08: 00 am	Moderate Flow

9. Conclusion

Through this study we have elaborate the growth and change in urban context of a major connecting road of Dhaka city with consistent field work and observation. After analyzing the surrounding road network of Panthopath (Mirpoor road, Taj Uddin Sarani, DIT road). It is quiet admirable that Panthopath is growing the East-west connectivity successfully. Now a day it is connecting with the Hatirjheel road (Proposed) to increase east west relationship with DIT road. With respect to its connectivity the land use and the land value are increasing day by day. Analysis derives that this increased about 1000 time in current date from the year of 1988. So the Panthopath road is promoting sustainable urbanization in Dhaka city within a very short time. Panthopath brings together natural growth and change in culture at terms of municipal area covered by commercial, residential urban development.

Reference

- Jono Wardoyo, Eko Budiharjo, 2008, "Vegetation and Configuration as micro-climate Control Strategy in hot humid Tropical Urban Open Space", SENVAR + ISESEE, Humanity +Technology.
- Barbiratto, G.M, Torres, C.S. and Lisboa, T. A 2005, "Microclimatic condition of urban public space in a tropical city".
- Pablo Vaggione, Elda Solloso, 2009, "Linking Urban Development and climatic change mitigation and adaptation in a small city: An approach in Cuenca, Spain" Fifth Urban Research Symposium.
- RAJUK. Bangladesh