

A Vibrant and Sustainable Town Center Planning by Integrating Multi-functioning Activities at Baze Shilinda, Rajshahi

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ABSTRACT

Town center is the city's central hub combined with flexible multiple use, district of vertical mixed-use buildings that holds retail, commercial, administrative, civic, industrial, recreational and residential uses together which develops social connectivity. Especially for Bangladesh, Rajshahi is a growing city becoming congested due to compact urbanization and needed to be decentralized for sustainable urban growth of the city. The main objective of the study is to develop a sustainable "Town Center" which will cover major multi-functioning features of sustainable urban development ensuring ecological protection, equitable housing, and livable community through zoning pattern. Hence, Baze Shilinda at Paba Upazila of Rajshahi is the proposed study area for developing town center which is situated at the fringe area of the central city. The proposed town center has been illustrated through AutoCAD 2D for plotting the area and SketchUp 3D to explain the elevation of the buildings. Furthermore, the proposed space, land use, building size and height have been estimated maintaining planning standard of the local ordinance. The study concerned about the equitable housing for all class peoples where distance from housing to commercial, residential, industrial, retail and open space to make the center convenient. The design will hold the future needs as the center has permission to expand and also proposed waste treatment plant will make the center hygienic. In addition, the design utilizes the local resources and yield sustainable and connected economic flow of the center. The study will be a framework for designing a city center ensuring maximum facilities in sense of ecological balancing and multiple functioning and that way concerned authority can get a guideline for further town center development.

Keywords: Economic Flow, Equitable Housing, Multi-Functioning Features, Social Connectivity, Urban Growth

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INTRODUCTION

Town center is called the heart of a city. A city can be formed by one or more than one town center. A town center is defined by some characteristics. It is a place that provides walking, integrate open air and most importantly it is a place that is well organized with distinct public realm where people can gather and their community bonds get strong enough for the gathering

[1]. Town center provides all kinds of facility and activities that are crying need for the dwellers of the city. It also serves the economic, social and leisure activities; often a microcosm of the wider community, giving an insight into the demographics, people, culture, diversity and economic prospects of an area. A successful, town centers are the economic engines of most communities, allowing

enterprise to flourish and providing jobs for local people. Town center creates a nexus to the other parts of the city [2]. It allows the habitats to meet their demand in one place. So that town center must have some basic facilities of a person. Moreover, town center provides some civic facilities for people. Town center should be a place that a person can avail all the needs in one place [2]. It also allows the person to walk within the center by foot. It also provides a good environment to walk around the town center. Town center as provide some economic activity people come here and meet their demand walking the center. That is why the town center is very much needed for a city or town.

The study was undertaken for the development of a “Town Center” in Rajshahi city. The selected area is “Baze Shilinda”. There are some reasons behind the formation of another town center in Rajshahi city. According to the Bangladesh Bureau of Statistics community report of Rajshahi in 2011 Rajshahi has the population growth rate of 1.25%. In addition, the urbanization rate is 32.93%. Rajshahi city has the population of 2.6 million [9]. For the increasing population there is increase in demand. It is very tough for a single town center to cover the entire Rajshahi city with utility services. Existing town center for Rajshahi city is Shaheb Bazar and it is not proximal for the people who lives in Nouhata, Noudapara, Terokhadiya and other areas near these. They have to travel a long distance to avail the services. So, people have to suffer a lot. Traffic jams also increase inside the town center. Beside it is not properly planned. So, developing a new town center is a timely decision to reduce those problems. For this reason, the “Baze Shilinda” is chosen for developing a new “Town Center” on the basis of the capability, smooth accessibility from the surroundings, topographic condition, and land use pattern, etc. The vision of the

study is to develop a sustainable “Town Center” which will covers major multi-functioning features of sustainable urban development ensuring ecological protection, equitable housing, and livable community through zoning pattern.

LITERATURE REVIEW

Smith (2015) [3] reviewed the central area redevelopment focusing on government’s role, parliamentary terms of 1959–64, 1964–6 where local authorities acted the schemes. In this paper, author showed a case study of 20th century’s literature where four sections were reviewed [3]. The study indicates that, in the year of 1959–64, first two sections reviewed the political spectrum about central area urban renewal. Section III shows that in the hand of government department how modernist approaches to redevelopment and section IV indicates the destiny of these ideas. The study team inspired the participation of the governmental department for redevelopment plans.

Alzubaidi *et al.* (1997) [4] discusses a comparative study of town center and out-of-shopping. The authors describe that due to multi-functional nature of town center which provides variety of services that attracts the consumers even from outside of the town [4]. Simmie and Sutcliffe (1994) [5] shows that 80% people feels their town centers as vibrant, improving or stable and the main problem is counted caulescent from the recession and powerlessness not from the competition from outer town developments. They also describe that; town center in outer portion of the city provides lower prices to the consumers. The study team took the main theme of the study [5]. As the city of study area is growing faster so, decentralization of town center proving administrative, residential, retail, shopping, entertaining etc. activities are needed.

Jones *et al.* (1999) [6] indicates the specific problems facing increasing competition from out of town and edge of

center retail developments for medium size towns, whereas larger towns larger town shows higher up retail hierarchy [6]. Shujuan *et al.* (2013) [7] empathizes the 3D technologies for planning and designing process for better understandable and presentable [7]. In the analysis, they showed that, only 30% of the respondents use 3D technologies and most of them are using SketchUp. The study tried to show the advantages of using advanced technology and therefore the study team took the concept of using advanced technology for planning and designing process.

STUDY AREA PROFILE

As the existing town center (Shaheb Bazar) cannot fulfill the demand of people properly another town center has been needed to develop to reduce the pressure on shaheb bazar. There have been proposed three town centers by RDA (Lalithal, Baze shilinda and Choto Bangram) [10]. Among them “Baze Shilinda” has been selected for this purpose as it is situated between the city bypass and a highway where most of the area is vacant. So, it became very easy to develop a new town center in Baze Shilinda (Figure 1).

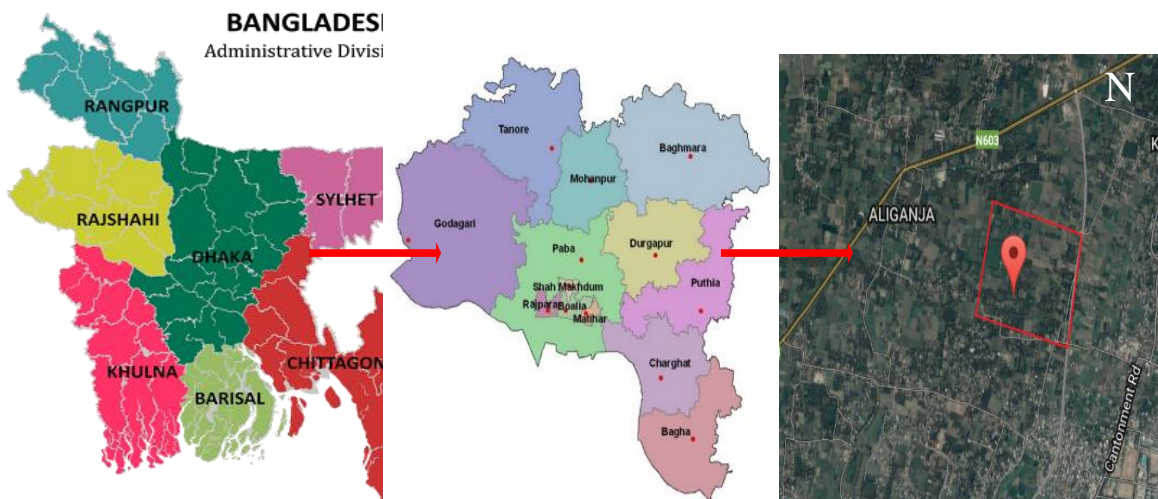


Fig.1. Location of Baze Shilinda.

The city of Rajshahi is the divisional headquarters of Rajshahi division as well as the administrative district that bears its name and is one of the six metropolitan cities of Bangladesh [8, 9]. Often referred to as Silk City and Education City, Rajshahi is located at 24.40°N 88.50°E and is situated on the northern banks of the river Padma. It consists of nine Upazilas, 14 Pourasavas and seventy-one unions. Paba is one of the upazila of Rajshahi. Paba Upazila (Rajshahi district) area 280.42 sq. km, located in between 24°18' and 24°31' north latitudes and in between 88°28' and 88°43' east longitudes. It is bounded by Mohanpur and Tanore upazilas on the North, West Bengal State of India and

Chorghat upazila on the South, Puthia and Durgapur (Rajshahi) upazilas on the East, Godavari upazila on the West. The area selected for town center development is a part of Paba upazila. The name of the proposed town center area is Baze Shilinda. It is situated 3.4 km from “Rajshahi Railway Station”, 1.1 kilometer from “Rajshahi Divisional Stadium”, 6.9 kilometer from “Shah Makhdum Airport”, Rajshahi, 3.7 kilometer from “Saheb Bazar”, 2.8 kilometer from “New Market”, 1.8 kilometer from “Bornali Mor” and 1.6 kilometer from “Rajshahi medical college”, Rajshahi [9, 10, 11]. To prepare a plan or implementation a plan of any area it is very important to know the existing condition of

that area. Existing condition of any area means the existing road condition, building structure, open space and other activities of that area. The characteristics of any area understand by the existing condition of that area.

The area “Baze shilinda” is surrounded by two important road of Rajshahi, one is city bypass and another is the highway. Those two roads are the main entrance of the site which are pucca and well developed. A secondary road which runs through the Baze Shilinda is very narrow and miserable [12].

The road has been broken here and there for the vehicles cannot move smoothly. As it is the only way to give the entry of the site people have suffered a lot.

In Base Silinda, most of the people are middle class. So, naturally a large number of houses are semi pucca mainly tin shaded. A few numbers of houses are fully pucca. Multi-storied buildings are very rare in this site. Most of the place of this site are vacant or have been used as agriculture land. These criteria were a great advantage to develop a new town center. The climate of the study area is tropical. Most of the time the weather remains very hot, especially in the summer. Most of the soils of the study are sandy soil and also have loamy soil. This soil can take the heavy load so high-raised buildings can be easily developed.

SWOT analysis was conducted to find out strength, weakness, opportunity etc. (Table 1).



Fig. 2: Existing road and housing conditions.

Table 1. SWOT Analysis

Strength	Weakness	Opportunity	Threat
1. Capable of accommodate a large population. 2. Well linked city center with surrounding land uses. 3. Well conditioned primary roads.	1. Inadequate drainage system. 2. Low land elevation 3. Arsenic problem 4. Inadequate supply of electricity. 5. Existing access roads are Katcha and Semi-pucca.	1. Most of the lands are vacant. 2. No massive physical obstacles like large buildings. 3. Ground surface is appropriate for development.	1. Traffic congestion at ‘City Haat’ in ‘Haat days’. 2. Environmental pollution due the garbage disposal area.

METHODOLOGY

For the purpose of this study a site was selected at Baze Silinda in Rajshahi through reconnaissance survey. Some literature review was done to better understand the study. After literature review the study objectives were fixed. Then data was collected from the site by conducting with local people and visual observation. Primary data in the site planning process plays an important role because it helps to design that area properly and help to find out actual need of that area. Primary data is collected by visiting the site at several times and take consultation with the local people. Their recommendation, problems are considered in developing this town center. Secondary data were collected from relevant books, articles, journal and Different maps of the study area. After collecting the data and knowing the existing condition of this area a draft plan has been prepared with the help of Auto CAD and Sketch Up software. Auto CAD was used to prepare 2D plan and Sketch Up was used to prepare 3D plan. At last a final plan has been prepared after some modification of draft plan. Then on the basis of information and planning techniques a final report has been prepared.³

RESULTS AND DISCUSSIONS

Zoning is the process of planning for land use by a locality to allocate certain kinds of structure in certain areas. Zoning also includes restrictions in different zoning areas, such as height of buildings, use of green space, density (number of structures of certain area), use of lots, and types of

businesses. Zoning is a technique of land use planning as a tool of urban planning used by local governments in most development countries. For the purpose of these regulations, the planning area of the town is divided into 6 specific zones and these are commercial area, residential area, industrial area, road, open space and urban deferred. The following Table 2 shows the area of the proposed zones in acre.

Table 2: Area of proposed zones of the town center.

Zones	Area (in acre)
Commercial Area	29.81
Mixed Use	16.94
Residential Area	26.45
Industrial Area	12.67
Urban Deferred	6.83
Open Space	4.11
Road	38.49
Total	135.3

The table 2 shows that total area of proposed town is around 135 acres where maximum area is proposed for commercial and residential perspective and the percentage of both land use covers about 22% and 20% of total land respectively. In the town center, proposed road network is higher which covers around 28.5% to ensure higher vehicle carrying capacity as town center will be a commercial oriented center. Mixed use zone is used for retail shops, convention centers, hospitals etc. and the zone covers 12.5% land of total area. Open space and urban deferred zones are also covered around 3% and 5% of total land respectively. Industrial zone is also provided which covers 9.4% at the outskirts portion of the center and the zone

is also buffered by trees. The whole land uses are distributed by maintaining the town center standards of the local area. The detail activities of the zones are described in the Figure 2.

The total a commercial area is about 29.81 Acre which is about 22% of total area. From the Table 3, it is seen that the total town center become the commercial dominant as it covers most of the area. Actually, it was the vision to develop a commercial dominant town center. The town center includes all the kinds of commercial activities as well as recreational service. The facilities are provided in commercial zone are given by following table 3.

COMMERCIAL AREA

The Commercial area of a town is usually a preferred location for National Civic and Cultural Organizations, Government Business (Civic Centers), Business and Commerce, Small Scale Business/Informal Sector Operators etc. because of the

opportunities that it presents. This makes the use of space in such areas highly competitive. Most local and international businesses are headquartered in the commercial area. The center should provide examples of the best architectural and urban design practices. The intent is to achieve such intensive civic and cultural, commercial and business activities in the commercial zone. The location of the commercial zone is at the center of the selected area. It is very general that the commercial area becomes always the middle of a town center as there the road connectivity is very good. All kinds of administrative building locate at the center of the town. In this proposed town center, no vehicles are allowed to entry into the commercial area as well as the core area. This restriction has been given to reduce the traffic jam at the commercial area. Four parking spaces have been provided at all the entry way of the commercial area so that people parked their vehicles at a specific place. Then they come to the commercial area by foot.

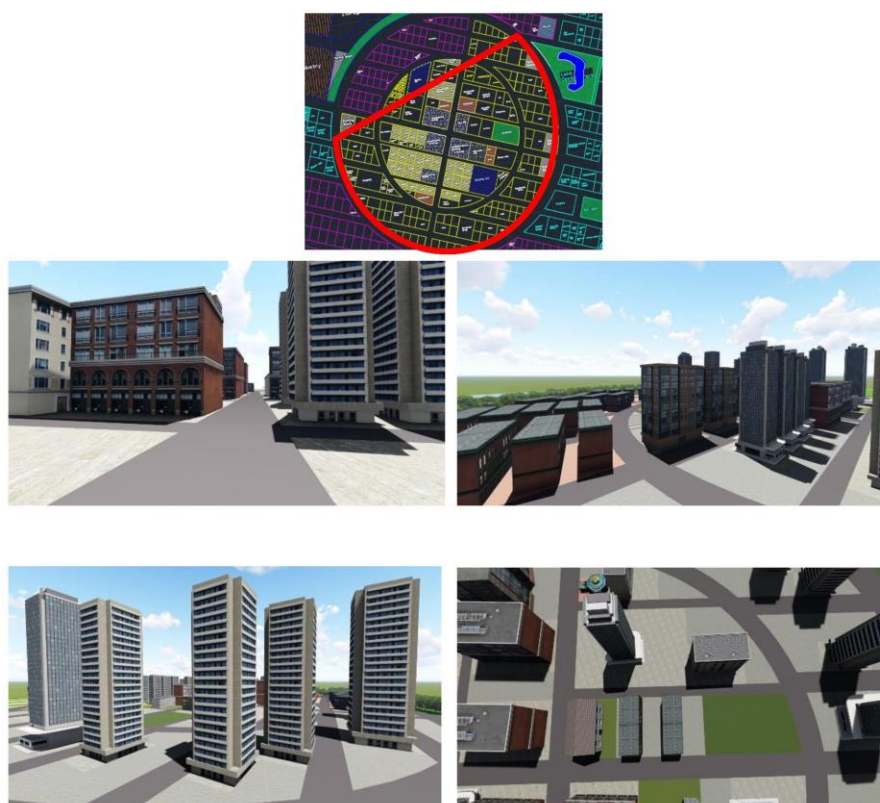


Fig. 3: Proposed land use of commercial zone.

Table 3: Land use provided in commercial area

Land Type	Number	Total Area (In sq. feet)	Total Area (In Acre)
Administrative Building	5	69114	1.58685744
Art Gallery	2	17280	0.3967488
Auto Stand	1	4226	0.09702896
Bakery	1	2640	0.0606144
Bank	11	43921	1.00842616
Beauty Parlor	1	640	0.0146944
Park and Open space	1	17948	0.41208608
Cinema Hall	1	13504	0.31005184
Club	1	4320	0.0991872
Coffee Shop	2	5832	0.13390272
Community Hall	1	11664	0.26780544
Community Police Barak	1	1512	0.03471552
Customer Care center	1	3549	0.08148504
Cyber café	2	2268	0.05207328
Filling Station	2	10818	0.24838128
Fire Station	1	7777	0.17855992
Fruit Shop	1	2160	0.0495936
Furniture	1	2880	0.0661248
Gift Shop	1	240	0.0055104
Grocery Shop	2	370	0.0084952
Gymnasium	2	8287	0.19026952
Laundry	1	320	0.0073472
Library	1	8640	0.1983744
Mosque	2	4801	0.11023096
Motel	1	4320	0.0991872
Office	15	59016	1.35500736
Photocopy	2	1512	0.03471552
Post Office	1	4320	0.0991872
Residential Hotel	1	8640	0.1983744
Repair Shop	1	2935	0.0673876
Restaurant	3	18887	0.43364552
Retail Shop	5	9526	0.21871696
Saloon	1	320	0.0073472
Shopping Mall	2	43301	0.99419096
Stationary Shop	2	4392	0.10084032
Sweet shop	2	5884	0.13509664
Tailor	1	605	0.0138908
Tea Stall	2	293	0.00672728
Theatre	1	8640	0.1983744
Town Hall	1	8640	0.1983744
Ware House	1	6097	0.13998712
Water Tank	1	295	0.0067732
Wholesale	1	8462	0.19428752
Park and Open Space	1	17712	0.40666752
Museum	1	8640	0.1983744
Town Hall	1	8640	0.1983744
Parking Space	2	7889	0.18113144
Police Station	1	8640	0.1983744
Toy Shop	1	480	0.0110208

RESIDENTIAL AREA

The inhabitants of a town center live in this zone. Here not only the residential activity serves, but also other small-scale activity is provided to serve the people. Residential zone is very important part of a town center. The people who work in the main core area or industrial area generally try to live at the center though here both land and housing price is high. So, generally high-class people live here, because of their time and travel cost saving. Beside the owner of various office or rich people prefer to live here and some workers are found to sleep here and there as they cannot effort a house here, Because of their time and travel cost saving. Beside the owner of various office or rich people prefer to live here. Three type of housing has been provided in this proposed town center. The total residential area is 26.45 Acre. The proposed residential land use types are described below in Table 4.

Table 4: Proposed residential land use type.

Land use Type	Total Area (In Acre)
Low Class Residence	4.97
Middle Class Residence	9.75
High Class Residence	13.02

LOW CLASS RESIDENCE

Lower class residence has been placed beside the industrial zone as they get some extra advantage like they can save travel cost as well as low price of land and housing because generally high- and middle-class people don't want to live beside an industry. Beside in this design, the residence cost has been kept under their economic condition. In addition, a buffer has been created between the low-class residence and industrial zone so that the industrial noise or any kinds of pollution do not hamper their life.

In low class residence, there have been provide two types of plots such as 3 Katha and 4 Katha. Amount of 3 Katha's Plot is 52 and amount of 4 Katha's Plot is 22 (Table 5).

For 3 Katha's Plot

- (1) Size of the plot = 3 Katha (2160 sq. ft)
- (2) No. of Storied per plot = 1
- (3) No. of Family per Storied = 4
- (4) No. of Member per family = 4
- (5) Total no. of people per storied = 16
- (6) Total no. of population per plot = (16 x 1 = 16)
- (7) Total no. of population for 3 Katha's plot= 52 x 16 = 832

For 4 Katha's Plot

- (1) Size of the plot = 4 Katha (2880 sq. ft)
- (2) No. of Storied per plot = 1
- (3) No. of Family per Storied = 5
- (4) No. of Member per family = 4
- (5) Total no. of people per storied = 20
- (6) Total no. of population per plot = (20 x 1 = 20)
- (7) Total no. of population for 3 Katha's plot= 22 x 20 = 440
- (8) Total population = 127.

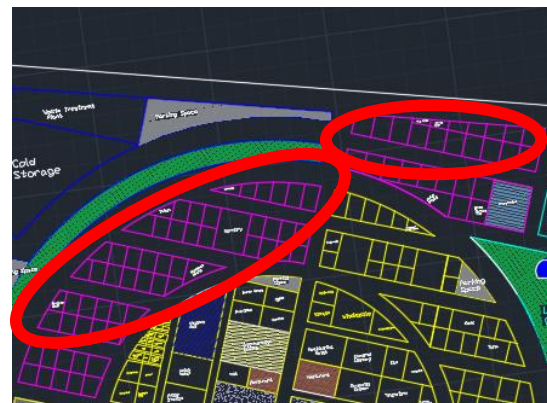


Fig. 4: Low class residential area.

Table 5: Land use provided in low class residential area

Land Type	Amount	Total Area (In Acre)
Residential plot	74	4.18563096
Corner Shop	1	0.01510768
Grocery Shop	2	0.06483904
Tailor	1	0.03303944
Nursery	1	0.1983744
Tea Stall	1	0.01719704
Auto Stand	1	0.12761168
Primary School	1	0.2644992
Library and Stationary Shop	1	0.0661248
Total		4.97242424

- Total Area (in Acre) = 4.97Acre
- Density = $(832+440)/4.97 = 256$ people per Acre
- 540 sq. ft per family for 3 Katha’s
- 576 sq. ft per family for 4 Katha’s

MIDDLE CLASS RESIDENCE

There have been also proposed a middle-class residence area where a cul-de-sac pattern has been proposed to break the monotony design pattern and the traditional road patter used in Bangladesh. 4 Katha plots have been provided here. The red color indicates the middle-class residence (Figure 5). Here the affordable housing has been proposed, so that the middle class bear it.

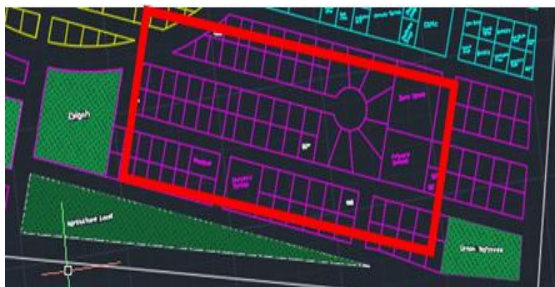


Fig. 5: Middle class residential area.

The size and descriptions of the plots are given below.

Total Amount of Plots- 107

- (1) Size of the plot = 4 Katha (2880 sq. ft)
- (2) Number of Storied per plot = 3
- (3) Number of Family per Storied = 3
- (4) Number of Member per family = 4
- (5) Total number of people per storied= 12
- (6) Total number of population per plot = $(12 \times 3 = 36)$
- (7) Total number of population = $107 \times 36 = 3852$
- (8) Total Area (in Acre) = 9.75 Acre
- (9) Density = $3852/9.75 = 395$ per Acre
- (10) Occupied area 960 sq. ft per family
- (11) The facilities which have been provided in middle class residents have been described in following Table 6.

HIGH CLASS RESIDENCE

For the high-class people luxurious buildings have been provided. All kinds of facilities have been provided here. Cul-de-sac road pattern has been also seen here. Plot size is large here 6 Katha and occupied land per family is also high. High class people always want a place where facilities are high, safe, pollution free, charming environment with a good transportation system connected to the CBD. In this study for the high-class people luxurious residence area have been provided where all kinds of facilities have been provided. Cul-de-sac road pattern has been also seen here. Plot size is large here 6 Katha and occupied land per family is also high. A design view of high-class residential area is showed in the following Figure 6.

Table 6: Land use provided in middle class residential area.

Land Type	Amount	Total Area (In Acre)
Residential plot	107	7.070302
Grocery Shop	2	0.121229
Eidgah	1	1.139711
Urban Deferred		2.216053
Open Space	1	0.50202
Cyber Café	1	0.033062
Primary School	1	0.376544
Tailor and Laundry	1	0.066125
Coffee Shop	1	0.035657
Nursery	1	0.27552
Mosque	1	0.099187
Photocopy	1	0.033062
Total		11.96847

Description of high-class residence is given below.

Here total amount of plots are 86.

- (1) Size of the plot = 6 Katha (4320 sq. ft)
- (2) No. of Storied per plot = 5
- (3) No. of Family per Storied = 3
- (4) No. of Member per family = 4
- (5) Total no. of people per storied = 12
- (6) Total no. of population per plot = $(12 \times 5 = 60)$

- (7) Total no. of population = 86 x 60 = 5160
- (8) Total Area (in Acre) = 13.02
- (9) Density= 5160/13.02 = 396 per Acre
- (10) 1540 sq. ft for per family
- (11) The facilities which have been provided at high class residence are given in following Table 7.

Table 7: Facilities provided in middle class residential area

Land Type	Amount	Total Area (In Acre)
Residential plot	86	8.975638
Saloon	1	0.04592
Super Shop	1	0.084011
Urban Deferred	0	3.146806
Park	1	0.793498
Primary School	1	1.215043
Coffee Shop	1	0.099187
Nursery	1	0.396749
Mosque	2	0.31919
Secondary School	1	0.793498
Stationary & Corner Shop	1	0.099187
Photocopy and Cyber Café	1	0.099187
Flower Shop and Tea Stall	1	0.099187
Total		16.1671

INDUSTRIAL AREA

Land included in an Industrial zone is intended to accommodate a wide a range of industrial and related development including manufacturing, food processing, assembly of machinery, and heavy equipment. Industrial zones will be located in strategic locations close to major roads and infrastructure to ensure that services

are provided to a high standard and reliability.

- North-west corner of the town center.
- Located in corner so that industry cannot affect center.
- Buffer is created that can divide industrial area from other land uses.

Well connectivity to outside and within the town center (Fig. 7).

MIXED USE ZONE

Mixed used land use is very efficient and effective for the inhabitants of a town center in this modern era. Every kinds of activity are found here. So, anyone can get any kinds of good or other purpose here. All kinds of needs of the inhabitant can fill up here. It serves various kinds of activities and facilities. All kinds of shop and recreational center locate in this zone. About 16.94-acre (13%) area of total area is mixed used zone (Fig. 8).

Facilities which are provided in industrial area are given by following Table 8.

Table 8: Facilities provided in industrial area.

Land Type	Amount	Total Area (In sq. feet)	Total Area (In Acre)
Industry	4	365079	8.38221384
Cold Storage	1	63088	1.44850048
Waste Treatment Plant	1	33570	0.7707672
Parking Space	2	32914	0.75570544
Buffer	1	56987	1.30842152



Fig. 6: Proposed high class residence (left) and Cul-De-Sac (right).

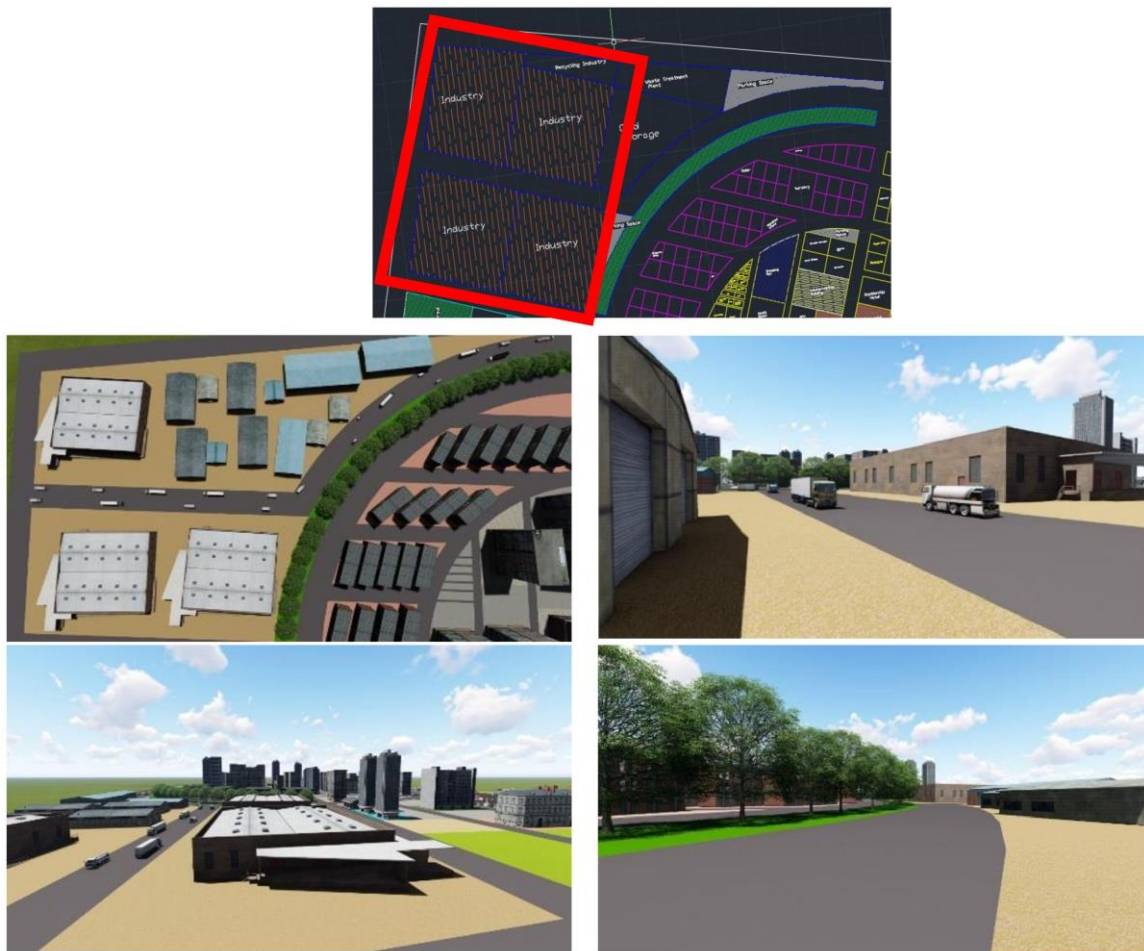


Fig. 7: Proposed plots and some land use of industrial area.



Fig. 8: Proposed mixed used zone.

Land include mixed used zone is provided various facilities for the resident of town center (Table 9).

OPEN SPACE

Open space is heart of a town center. For the recreational purpose and to take a fresh

depth breath people come here. The study team proposed enough open space for providing relaxation and freshness for town center resident. The amount of open space in town center is 4.11 acre. This is 3% of total area. The area which is reserved for the further expansion of the

town is considered as urban deferred. Study team proposed some urban deferred area. Total area of urban deferred is 6.83

acre. Which is 5 % of total land? The green color indicates the urban deferred area (Fig. 9).

Table 9: Facilities provided in mixed use zone

Facilities	Amount	Total Area (In sq. feet)	Total Area (In Acre)
Coffee Shop	2	5760	0.1322496
bakery	2	10080	0.2314368
Bus Stand	1	77153	1.77143288
Car Showroom	1	11520	0.2644992
Central Park	1	86252	1.98034592
Cinema Hall	1	12480	0.2865408
Clinic	1	11500	0.26404
Community Police Barak	1	2880	0.0661248
Convention Center	3	55660	1.2779536
Corner shop	1	1336.77	0.030692239
Cyber café	1	1440	0.0330624
Fire Station	1	10042	0.23056432
Food Court	3	8640	0.1983744
Furniture Shop	5	16165	0.3711484
Gift Shop	3	10080	0.2314368
Grocery Shop	2	5217	0.11978232
Hardware Shop	2	7200	0.165312
Hospital	1	17635	0.4048996
Market	1	17635	0.4048996
Medicine shop	4	14400	0.330624
Mixed Use		164160	3.7691136
Office	5	24422	0.56072912
Retail Shop	5	47124	1.08196704
Super Shop	4	36288	0.83317248
Sweet shop	4	12960	0.2975616
Tiles shop	1	4320	0.0991872
Hostel	2	5760	0.1322496
Hotel	1	2880	0.0661248
Katcha Bazar	1	12339	0.28330344
Library	1	2880	0.0661248
Madrasah	1	11520	0.2644992
Mobile Shop	1	2880	0.0661248
Motorbike Showroom	1	5760	0.1322496
Painting Shop	1	2880	0.0661248
Photocopy Shop	1	1880	0.0431648
Public Toilet	1	2880	0.0661248
Residential Hotel	1	5760	0.1322496
Radio Station	1	2880	0.0661248
Restaurant	3	11520	0.2644992
Secondary School and College	1	14010	0.3216696
Small Industry	1	10970	0.2518712
Stationary Shop	2	5760	0.1322496
Studio	1	2880	0.0661248
Theatre	1	18608	0.42723968
Tiles shop	3	8640	0.1983744
TV center	1	5770	0.1324792
Ware House	1	5760	0.1322496
Wholesale	1	5760	0.1322496

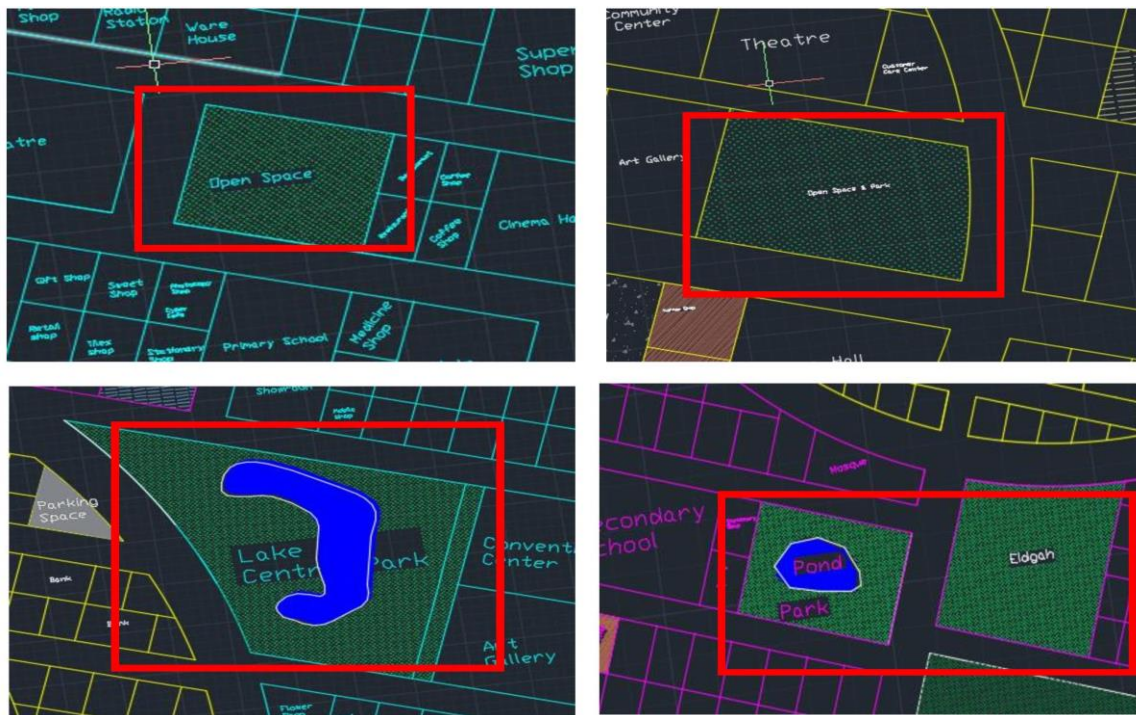


Fig. 9: Proposed open space with pond and lake.

URBAN DEFERRED

Land identified for future urban uses following the extension of urban services, the progressive development of adjacent urban areas, and resolution of any environmental and planning requirements relating to development (Fig.10).

OTHER SERVICES

Bus Service:

Bus stand has been proposed at the north east corner of the town center. Its location has been given at the end of the town center so that any kinds of large vehicles like bus truck do not hamper the main core area. All the vehicles have been come to the bus stand and go out without entering into the main core area (Fig. 11).

FOOTPATH

Pedestrian pathway is very important consideration when someone will think about the reduction of traffic jam. In this proposed town center, a restriction has been given that any heavy vehicles cannot take entry into the commercial area. So, people have to travel this distance by foot. For this a pedestrian friendly (Fig. 12).

Pathway beside the must be ensured. This proposed town center has ensured safe footpath and pedestrian network. These footpaths are also suitable for disabled people by creating slope at various places.

CONCLUSION

The Team was commissioned to scope out the nature of the outputs and longer-term outcomes, to understand how town center development plan works and what it can achieve. The task groups are aware that this is not an exhaustive review of all the work to development town Centers in Shilinda. The Shilinda Town Center Precinct has been identified within Rajshahi Metropolitan Development plan (2004–2024) as an appropriate location for increased growth and to meet the population targets of the City of Rajshahi. These studies have identified the need to relate growth targets to the appropriate provision of public transport, public open space and desirable built form outcomes, to create a sustainable and efficient Town Center with high levels of amenity.

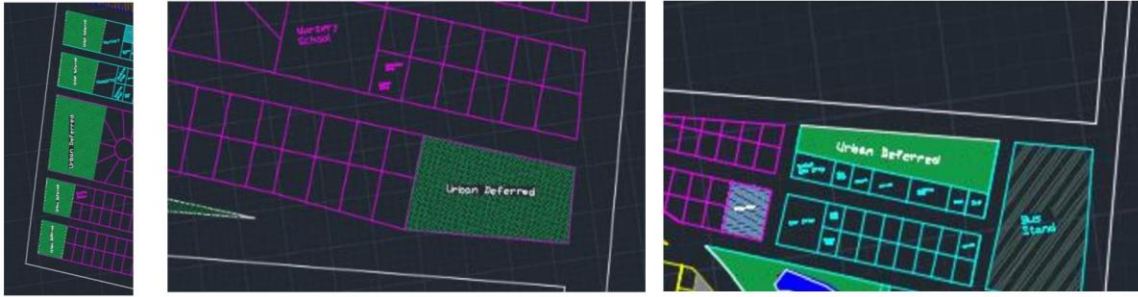


Fig. 10: Urban deferred.

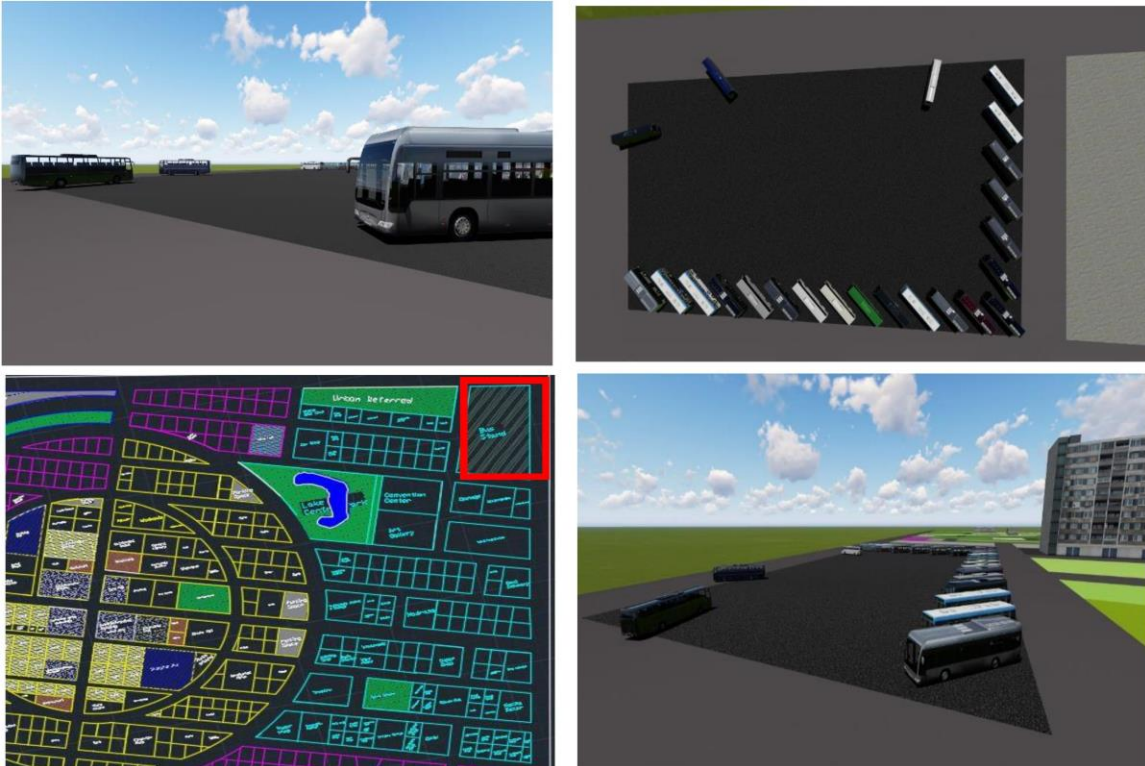


Fig. 11: Bus stand with parking place.

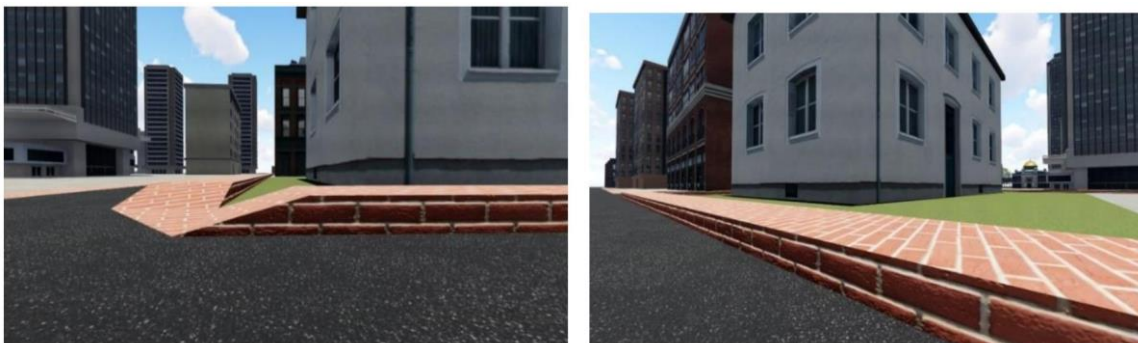


Fig. 12: Proposed footpath.

This development plan is intended to guide the future growth of Shilinda Town Center Precinct. The Development plan addresses the provision of transport measures, public open space and desirable built form

outcomes as the basis for recommending Rajshahi Metropolitan Development plan (2004–2024). The information and concepts presented in the development plan are intended to guide on public and

private use of land within the Town Center Precinct as well as the provision of public facilities such as improvements to infrastructure, roads, public open space, etc. Some areas in the Town Center Precinct have been recently developed, are unlikely to re-develop within the near future, and are not the subject of built form studies and controls. Those sites that have development potential are the subject of built form studies and controls.

Currently, the study area is comprised mostly of large footprint, low rise industrial or distribution center buildings. These buildings are entirely at odds with the creation of a well-serviced, permeable and dense town center. New streets, parks and pedestrian connections are designed in the development plan to provide suitable access and amenity to new, relatively fine-grained urban blocks.

In this study the town center has been made a commercial oriented town center as most of the areas are covered by the commercial activity (about 22% of total area). As it is a commercial based town center every kind of government and non-government offices, banks and other economic activity. As it is a commercial based town center a good and efficient transportation system has been provided (38.49%) so that in future traffic congestion does not occur. In this study, the industrial area also propose in the North-west corner in the town center as it does not harm the natural life of residential people and does not keep any impact on environment. In this study, the town center has been designed in such a way that it can accommodate both the present and future pressure of growth of population.

The future urban form of the Shilinda Town Center Precinct is balanced, connected, sustainable and cohesive, to strengthen the role of the Town Center Precinct within the Rajshahi, Bangladesh.

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