

Redevelopment Proposal for Old Industrial Area Through Local Area Plan in South East Zone, Surat

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Abstract - Urbanization increasing enormously at worldwide. In India an urbanization increasing from 286 million in 2001 to 377 million in 2011 with 31.16% Decadal growth in population. Rapid industrialization is one of the prime factors that accelerates the urban growth of city. The objective of this paper is to Explain Concept of local area plan. This paper also proposes a sustainable planning solution by shifting the industries from dense area to area outside in SUDA boundary and reclaim/ redevelop this industrial area by using Local area plan. This industries area established since earlier time from pre independence but with growth of city now they existing between dense residential and commercial area which harmful for urban environment. This paper also gives a planning proposal for local area plan to reclaim old industrial land in to high density residential and commercial area.

Key Words: Local area plan (LAP), Industrial redevelopment, High density

1 INTRODUCTION

Urbanization is pertinent to know how urban areas are defined because, from the demographic point of view, the level of urbanization is measured as percentage of population living in urban area.[1]

Urban growth in India is boosting and leading to dense cities rising the building height resulting into impact of inadequate infrastructure facilities, In India an urbanization increasing from 286 million in 2001 to 377 million in 2011 with 31.16% Decadal growth in population. According to 2011 census only 31 percent of the population of India lives in urban areas. According to UN's the urban population of India will be less than 35 percent in 2020 and approximately 40 percent 2030. By 2030 another 225 million people will be added to the Indian urban areas

This increase in the population put burden on demand and supply of the primary infrastructure in urban areas also after sometime changing lifestyle after urbanization stress on basic infrastructure. This population explosion is frozen the government policy makers to review the resources allocation for determination of urban growth without human experience base prediction is necessary.

1.1 Concept of local area plan

In India every state has its own planning mechanism. According to the hierarchy of plans formatted right from region level plan two metropolitan areas plan and city master plan, detailed aspect of local area base planning is conventionally neglected.[2]

Every plan serves a unique purpose and has different scale state use different nomenclature for development plans, some refer it as master plan while other just call it a developed plan. These plans are generally in phases of 5 years. But it has been seen that propose development plan are not completely implemented because of its very large scale. Moreover, the proposal is also not detail according to small location hence it become difficult to implement it JNurm also recently e maintain the CDP, which focuses on implementation strategies but even, they lack of mechanism to implement it small scale or locality level.

1.2 Provisions of local area plan in Indian legislation

There is no mechanism for primary of local area except for few like TPS. TPS is also practice in only two state i.e. Maharashtra and Gujarat. Hence the existing system of planning lack integrated and bottom up approach. There is deficiency at linkage of all these plans. Hence new concept has been introduced in the form of local area planning in recently amendment Maharashtra regional and town planning act, 1966 in the section 32. And also Amended in Gujrat town planning and Urban development Act,1976 in section 76[3]. This concept is introduced to integrate top down planning with the bottom up plans. Local area plan has a small scale and especially prepare for small location. They are further linked with municipal financing mechanism to make it more realistic and Target oriented, which also makes it easily implementable. The 74th controversial demand is also about such integration at local level of search implementation.[4]

The Smart Cities Mission of the Ministry of Housing & Urban Affairs (MoHUA) has followed an Area Based Development approach to address the lack of infrastructure and services in these brownfield and greenfield areas. Smart

Cities are undertaking retrofitting of brownfield areas to transform existing neighbourhoods and systematically develop in greenfield sites located on the outskirts of the city. However, there is also an urgent need for Indian cities to do the physical planning for redevelopment of existing brownfield areas and facilitate planned urban expansion in greenfield sites. Therefore, existing 'Areas' will have to be redeveloped by preparing Local area plans (LAP).[5]

2 CASE STUDIES

case study is done by consideration Indian scenario. The concept of LAP in a developed country is quite wearing an Indian perspective and study is required. The concept from both scenarios are studied to observe the key factors considered and utilize the better practice among them suitable to Indian context.

1) Indian scenario- Ahmedabad- Local Area Plan

The Transit Oriented Zone in Ahmedabad has been defined in the development plan 2021 and planned along the BRTS and part of MRTS corridor. The total area under TOZ is about 4300 Ha. The Development Plan outlines several mechanisms to help reign in Sprawl by promoting a compact city structure with higher densities in zones that have good public transport access. The transits-oriented zone is defined as 200 meters of this BRTS corridor (from road center line), All plots part of this zone is eligible for 4.0 FSI. Pedestrian and transit-oriented development (TOD), in which residential and buildings are planned around public transport, cycle networks, and pedestrian facilities, is critical in order to move away from urban sprawl and car dependency. The design of new buildings and open spaces, the reform and creation of new development control regulations, and the removal of other regulatory barriers is important to creating an environment that better suits residents' daily needs.

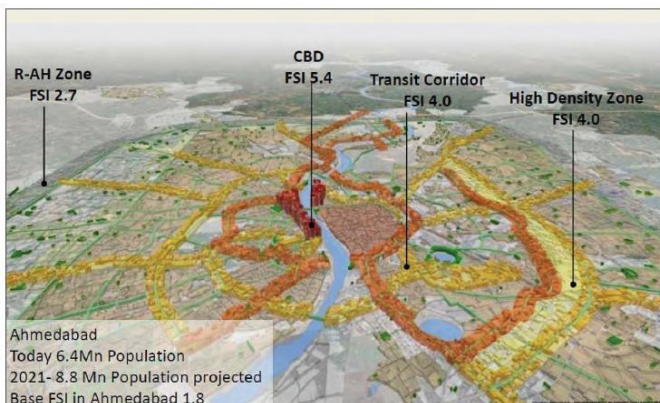


Figure 2-1 TOZ Local area plan of Ahmedabad
(Source- Local area plan, TOZ, Chandkheda to visat circle)

3 METHODOLOGY ADOPTED

The activities involved from start to end of a LAP represented in flowchart below.

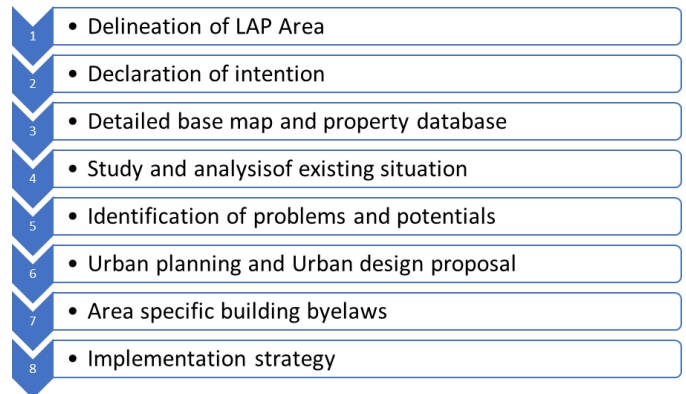


Figure 3-1 Typical local area plan methodology
(Source-Guideline for preparation of local area plans for municipal corporation of Delhi)

To redevelop old industrial area in core area of Surat city definition small scale structure plans terms as "local area plans" is adopted. The delineation of area is arrived out by following the guidelines of Delhi LAP. Initially, the base map is prepared on smaller scale by keeping the existing development plan map as a reference. The survey map of South East zone area is acquired from municipal corporation for plot level mapping. After mapping all important features of the area, a preliminary survey was conducted whose purpose was to understand area properly.

In preliminary survey visit. The basic aim was to recognize the issue, collected photographs of important locations, and understand the urban fabric. Based on preliminary visit a detailed questionnaire is prepared and questionnaire survey is conducted in which plot level data is collected by visiting every single plot. After collecting this data, it is analyzed graphically as well as statistical using ArcMap and Microsoft Excel software respectively. More maps, and tables are generated to properly correlate and understand the issue. After analyzed the condition, the area is subdivided into three functional zones. And proposals are prepared accordingly. The functional area is recognized to affect large number of issues are given detailed proposals through redevelopment of whole area considering plot ownership and existing plot area other proposals indicate development of new roads hierarchy proposal for utility services multilevel parking, garden etc.

These are specific proposal are meant for putting barriers to observe issues. For full-fledged redevelopment into high rise high density the proposal is given for accommodation of population and textile commercial activity from outgrowth areas and projected future population of existing area and future agglomeration are of Surat city. After finalising this proposal, a detailed financial analysis is carried out to check. The feasibility of the proposal after checking the facilities the area specific guidelines and design specification for every single proposal are given.

4 DATA ANALYSIS

The base of any study or project is appropriate data. Without fetching appropriate data, the study or project is not being completed to its mark. Study over Local area plan require many primary as well as secondary data. This study requires

industrial profile of study area and all the cadastral maps and all existing feature of study area at preliminary data collection stage.

The existing scenario related to planning and development of area is done by understanding the spatial relation of area in the primary process.

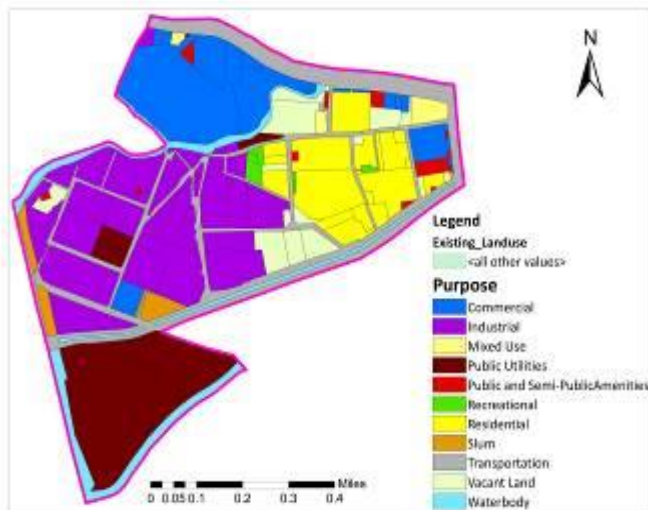


Figure 4-1 Existing landuse of study area

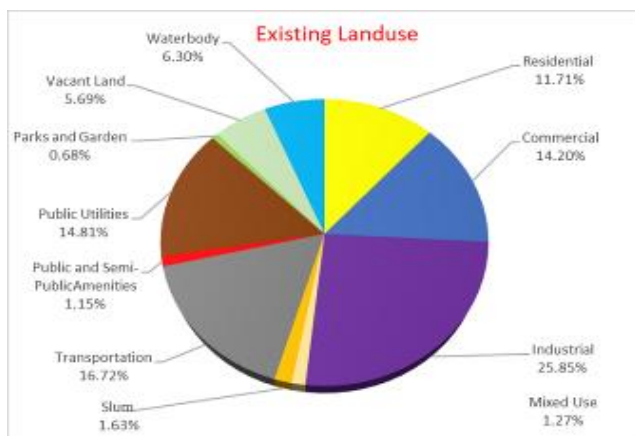


Chart 1 Existing landuse distribution in study area

One also sees land-use invasion by excessive commercialization which initially started with the incorrect choice of commercial function. This has led to massive industrialization of residential land use due to these generated market forces amidst a sensitive residential locality. So, this small area has regional importance which has to be re-established by regeneration and not renewal exercises. But there are many constraints that need to be studied.

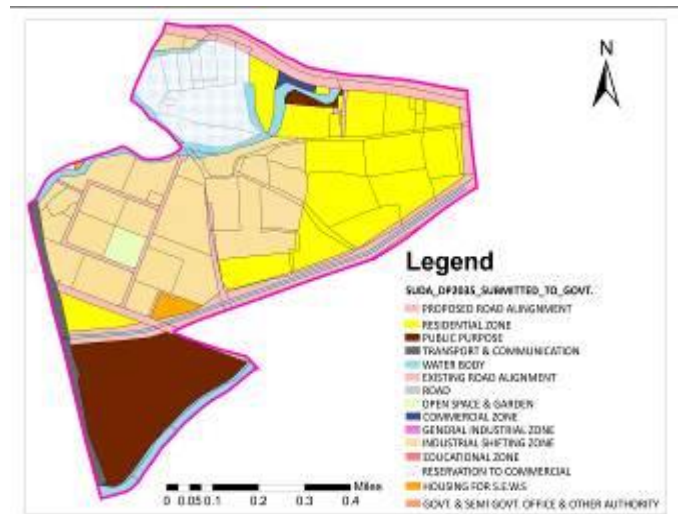


Figure 4-2 Proposed development plan 2035

(Source-Development plan 2035, SUDA)

Table -1 Comparison between Proposed landuse, existing landuse and Requirement as per URDPFI

Sr No.	Landuse	Proposed DP 2035 (in %)	Existing Landuse (in %)	Req. as per URDPFI (in %)
1	Residential	24.20	12.98	45-50
2	Commercial	9.67	14.20	3-5
3	Industrial	26.04	25.85	8-10
4	Transportation	20.57	16.72	12-18
5	Public and semi-public amenities	13.96	15.96	8
6	Open space and Garden	1	0.96	8-10
7	Waterbody	3.84	6.3	-
8	S.E.W.S	0.73	1.63	10
9	Vacant	0	5.69	2-3

table no-1 shows the difference between proposed land use in development plan 2035 and Existing land use. We can see that gap between proposed landuse is very much far then existing land use. As per norms residential area required 45-50% in any neighborhood area but here we find that only 12.98% area is cover by residential zone. Development plan also require shifting of existing industrial. In this Shifted area we can reclaim and proposed residential and commercial zone and also proposed required infrastructure to improve quality of life of that people which area living in that area.

5 PLANNING PROPOSAL

The analysis is base platform to recognize requirement, issue and opportunities. the regularity and lack of control

regulations following can be observed in the analysis. Issues such as lack of parking space, encroachment condition of road, Street hawkers, dilapidated buildings etc. Quantified and analyzed easier. These need to be considered while planning each proposal for betterment. If ignored, these issues are already increasing and will increase exponentially further and may cross the limit of rectification in upcoming future. The population boom and failing infrastructure will result in losing functionality of area and conclude in forming ghost cities, if left unattended. Hence, this character is focus to rectify completely or minimize the analyse issue and increase the functionality of the area. The proposal objective is to increase sustainability in high density, increase functionality of area and develop liveable neighbourhood with sustainable infrastructure.

1) New proposed roads

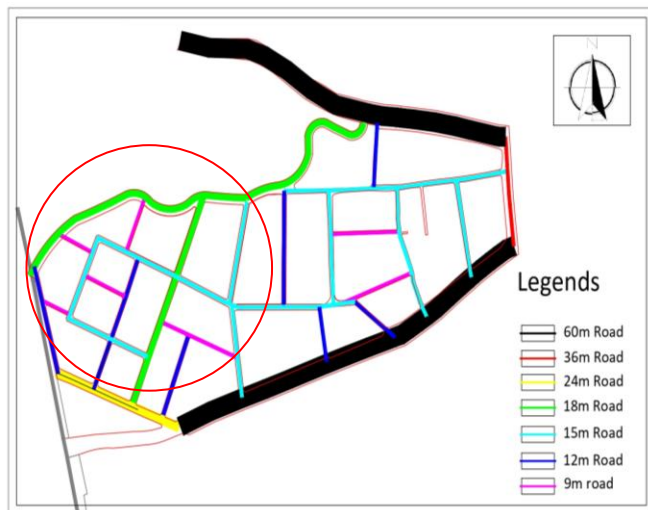


Figure 5-1 Proposed roads

Road widening is proposed to fulfill vehicular capacity in the peak hours. The hierarchy of road is taken into consideration while proposing the road widening layout. In TPS 33 widening in present scenario is only possible where there is minimum or no loss of any present structure. The setbacks are utilized for road widening purpose. All the existing road will 6m to 7.5m are widened to 9m according to feasibility. The road with width of 7.5m to 9m that were observed to be encroached are proposed to 9m widening. Accordingly, the other roads are widened according to requirement. The cross section of all present road is design consideration of steel furniture, propose according to standard. National Street lightning manual is referred according to which 25m to 30m spacing, when position on median and it decrease to 15m spacing when position on walkways. Alternate carriage way and footpath spacing is done to attain illumination to both carriage way and footpath. The spacing hence followed in 15 m which is minimum requirement according to standard. The dustbins are proposed to be arrange at every 15m spacing but following the alternate placing on both sides of road.

2) New Proposed landuse

The reconstitution proposal for existing Plots with same resident and owners are meant for putting barriers for

further growth of issues. Reconstitution of plots has been proved to be one of best land assembly technique and hence is adopted for this constitution feasible to bring actual impact in the situation has certain limitations. The plots that are already reconstituted and contain proper layout, if further change doesn't bring enough impact relative to tangible and intangible cost such areas are omitted from reconstitution along with this, The Development Plan reservations are maintained on the same location.

the study area is proposed to be redeveloped totally as it is very old area and the buildings in this area are mostly deteriorated which needs to be demolished. For this purpose, area of each and every plot in that area is determined and listed out according the plot numbers. The plot locations are kept the same or with minimum disturbance in location in order to avoid conflict

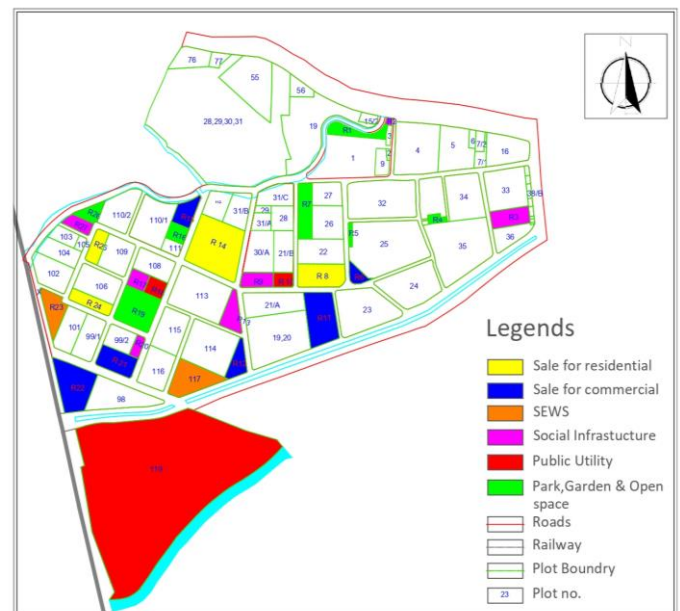


Figure 5-2 New proposed road

The deduction from every single plot is one of the most important decision for the acceptance of the land owners. Since, Surat has been following 40% deduction in the town planning schemes implementation in the city the same approach is followed in order to maintain homogeneity and less opposition from landowners is expected by adopting this virtue.

6 CONCLUSIONS

The study evaluates the need of paradigm which claims resulting to increase in the quality of life city which is depleting. The strategy for sustaining core area redevelopment is found through empirical methodology. In the pursuit of understanding and implementing local area plan for redevelopment of industrial old area of Surat city the integration of other city area plans with local area is done. The individual micro level development of such old area is hence accomplished.

In this paper, core area of Surat city is redeveloped through local area plan. The character of area is studied after

delineation of boundary based on boundary of ward, roads and natural features such. View of residents are considered through questionnaire survey passed down in analysis to know actual issues by their opinion. the cadastral survey and questionnaire carried out for every single plot generated data about build characteristics, infrastructure, utility, services and details of issues. The graphical conversation of reserves is considered for empirical consideration. The overview of reserve is as follows:

- 1) The study area contains 49.60% deteriorated structures in existing condition. Almost half of structures are found to be in dilapidated condition with age more than 50 years due to historical background of old settlement.
- 2) New road hierarchy containing 7.5m, 9 m, 12m, 15m, 24m, 36m and 60m road is proposed in the road widening proposal and also maintained in reconstitution proposal.
- 3) Common utility duct is also designed. It carries all the underground utility lines of the area. This is done for infrastructure services sustainability to rising demand of maintenance.

Through local area plan event the value capture mechanism is beneficial to deal with investment by using public investment as means of cost provision. The public investment in redevelopment is claim to increase the land values that contain the adequate facilities and utilities within vicinity. Since the redevelopment through LAP is intended to maximize community benefit It results in profit too. The initial cost related allocation of funds is recovered through hike in value of land.

The additional achieved FSI through learning of high-rise high density is main aspect for value capture mechanism. The most valuable resource that is land being Sparse in core regions is obtained through LAP reconciliation process. Benefits of widened straight roads, better infrastructure, and additional utilities are key element for value capture mechanism. Surat Being diamond and textile capital has potential of downtown development in its Mere future. The high-rise developments search as Philadelphia, Pennsylvania Seattle, Washington, Boston, Massachusetts, Chicago and Illinois are some example of high-rise downtown development. The core area of Surat can be evolved to such downtown development in sustainable manner by following methodology of this research.

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