

# INCONGRUITIES IN A SOCIALISTIC SMART CITY

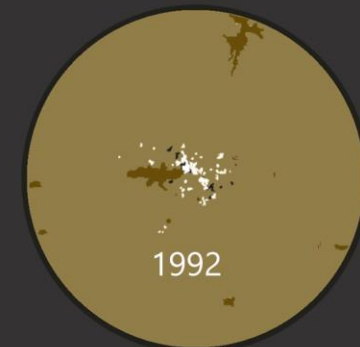
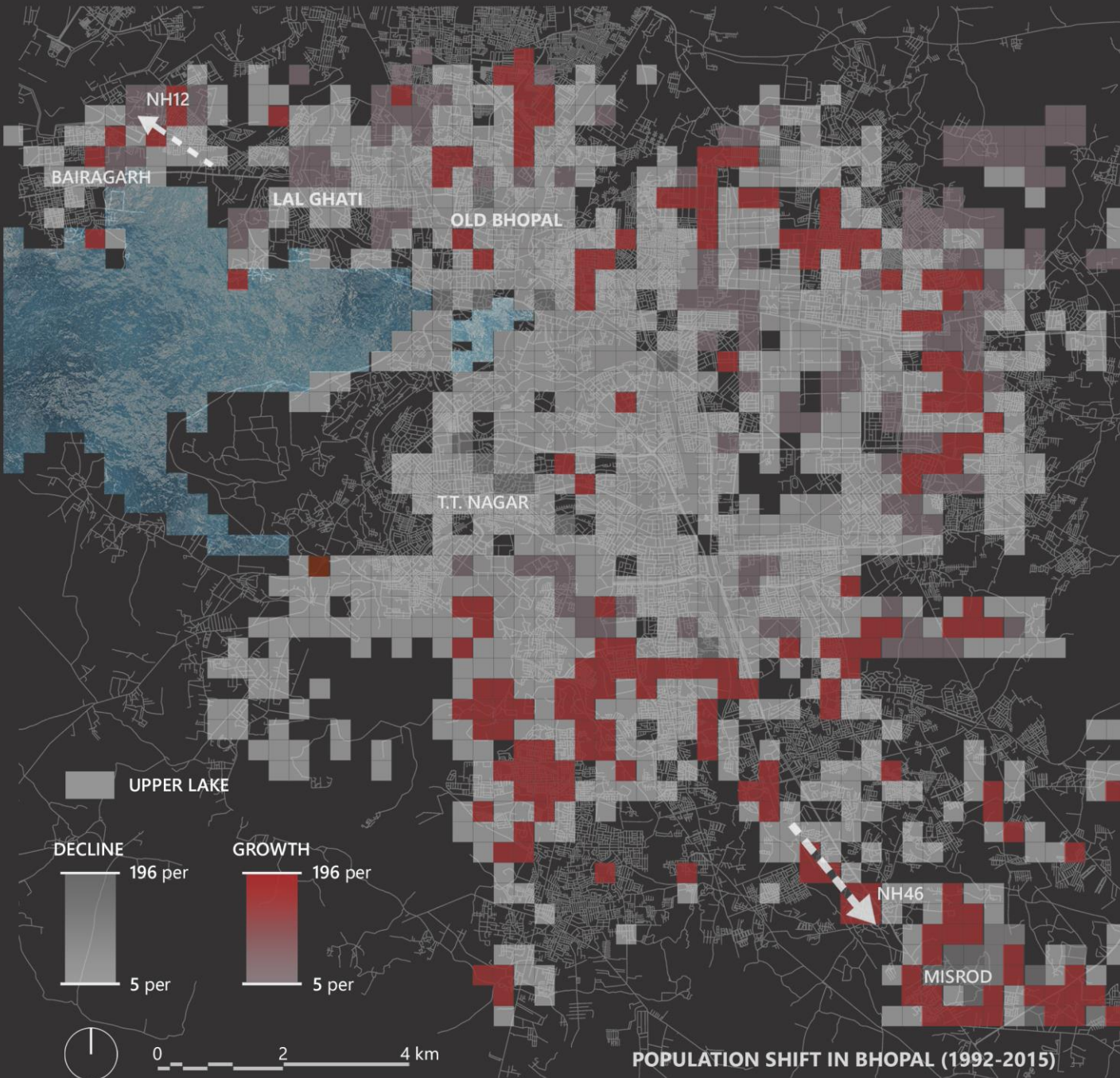


**AREA BASED  
DEVELOPMENT,  
T.T. NAGAR,  
BHOPAL**

## ABD DEVELOPMENT, TT NAGAR: SMART CITY ,BHOPAL

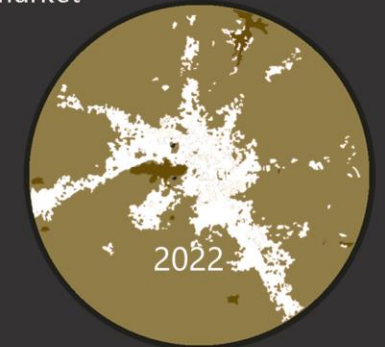
- Cities in India have witnessed a trend of rapid rural to urban shift
- Urban settings account for availability of job opportunities, large pools for diverse informal economies, livelihood and resources to progress and sustain thus leading to **urbanization**
- To undergo the largest global urban transition for the next few decades, India rests with the responsibility to upgrade the structure of its cities in a smart and sustainable framework
- The MUD launched India's Smart City Mission as a national initiative to develop **99 smart cities in five years (2015-2020)** with an aim to improve core infrastructure and provide citizens a sustainable environment while incorporating ICT heavily in order to provide 'smart' solutions.
- Huge income difference amongst the citizens. Only small proportion of people belonging to the high income strata, show high levels of consumption and access to technological resources whereas the remaining barely sustain, lacking basic services and uncertainty of jobs thus, having limited accessibility to technology. **This leaves an ambiguity towards the model being inclusive of these range of masses**

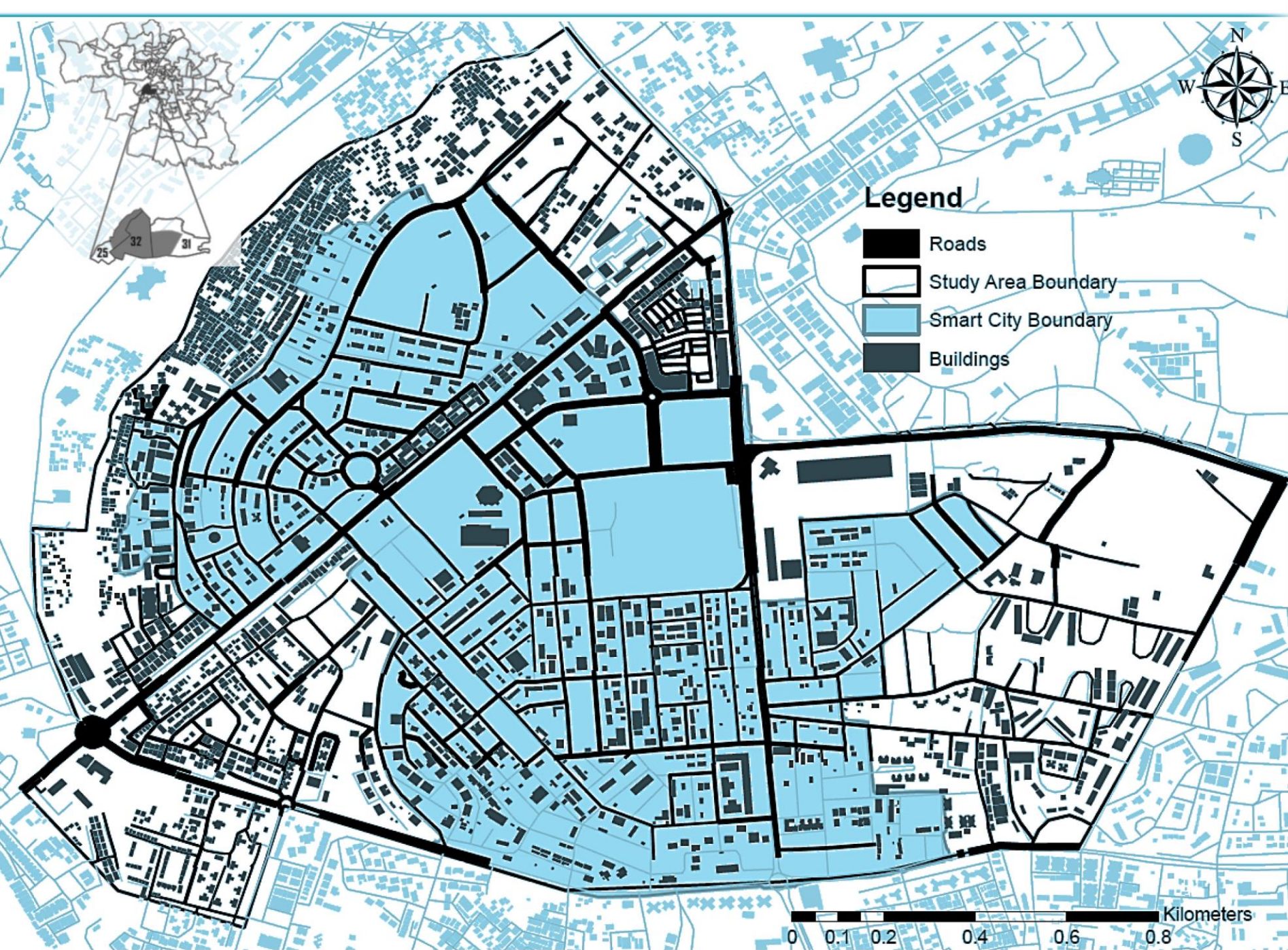




Bhopal grew intensely in north west and south east zones in 1977-1992 due to industrialization in the region. The industrial layouts came up in south east along with housing colonies and urban sprawl in other parts of Bhopal

The results of sprawl analysis show exuberant growth of urban paved surface due south which led to growth of suburban towns, generating need of appropriate infrastructure to cope up with plodding growth which gives vast opportunities to real estate market





TT NAGAR

SITE AREA- 145.8 ha

WARDS-25,31,32

MAJOR LANDMARKS:

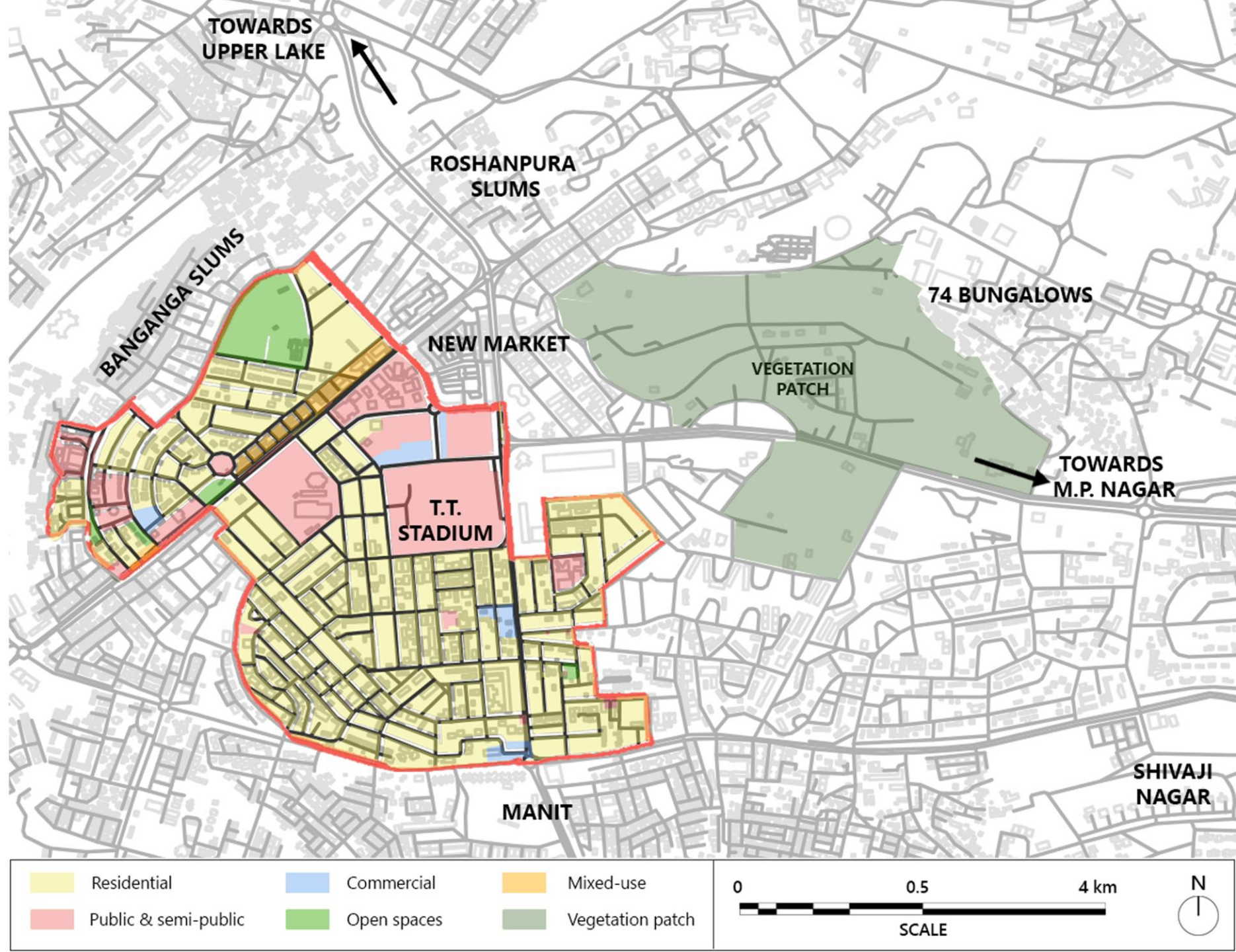
- TT NAGAR STADIUM
- DUSHERA MAIDAN
- PLATINUM PLAZA
- NEW MARKET
- GAMMON

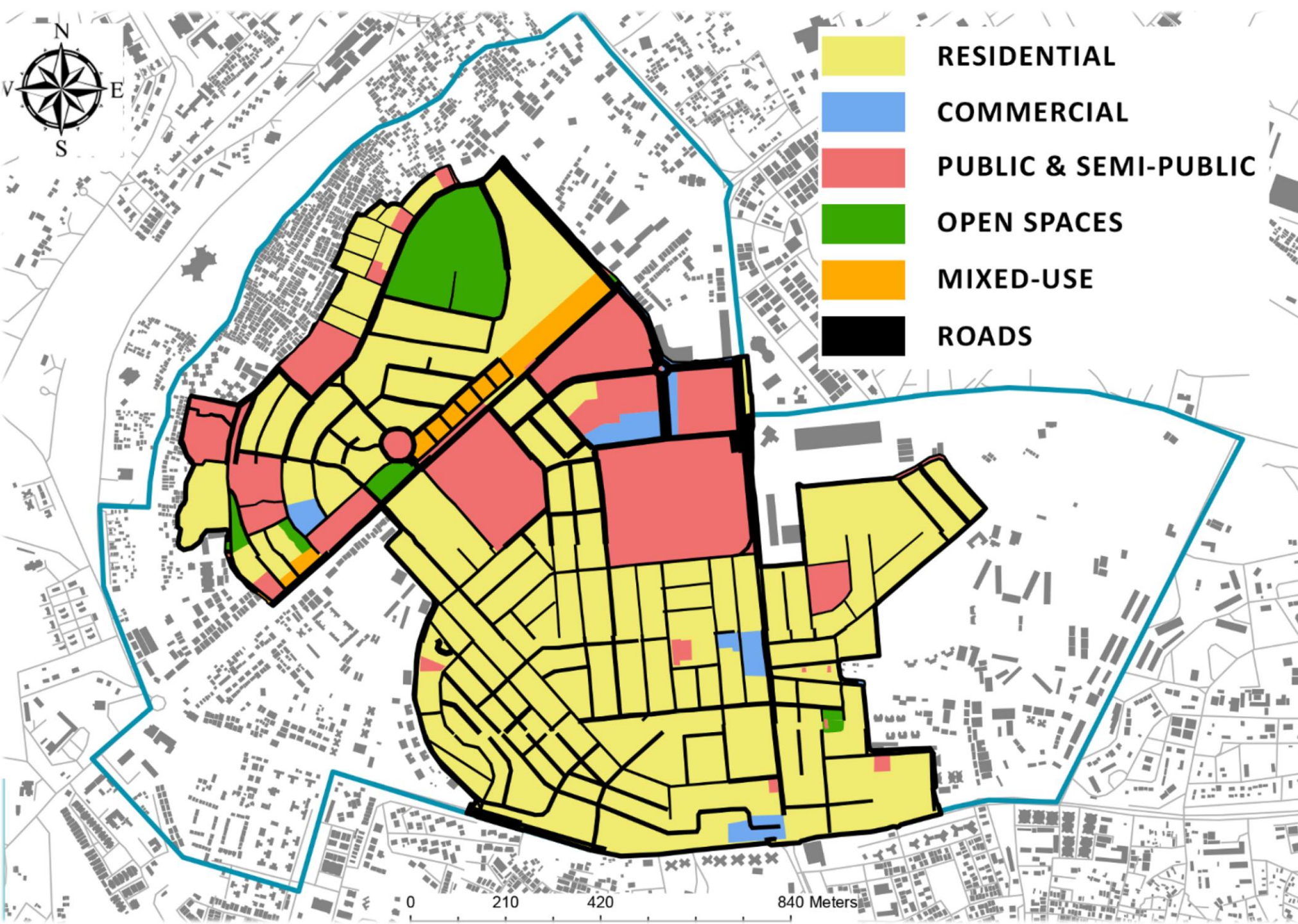
### Legend

-  Roads
-  Study Area Boundary
-  Smart City Boundary
-  Buildings

0 0.1 0.2 0.4 0.6 0.8 Kilometers

- Site covers government residential quarters, characterized by busy vehicular flow and market-spaces in vicinity
- The surrounding context is described by Sunday haats, temples, slums squatters near Roshanpura square and buildings which are essentially culture-sensitive
- BRTS nodes and proposed MRTS network lines passing through site make chosen area quite well connected to the rest of the city and hence, attracts huge inflow of small as well as large scale commercial establishments
- The ability to unlock the value of government land in the heart of the city, existing BDA projects in close proximity and dense transport connectivity made the choice of site logically sound and relatively easy to administer.
- However, considering stakeholders to be private organizations in a majority, given large scale real estate projects such as Gammon, the project seems to be catering to a context which is in contrast to what currently exists in entirety

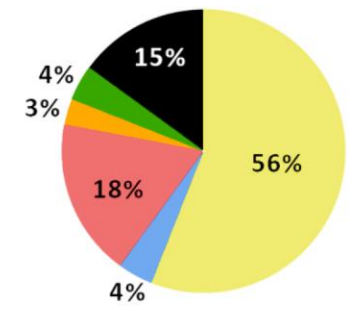




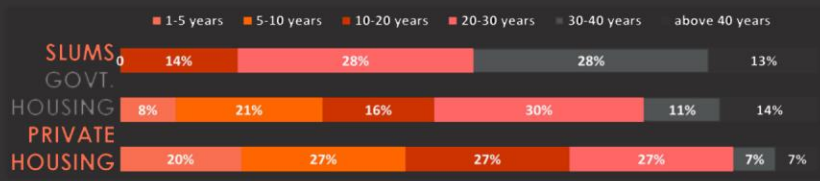
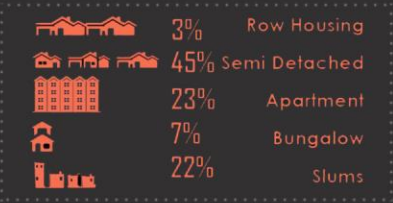
**EXISTING LAND USE MAP OF TT NAGAR BHOPAL**

GROUND COVERAGE= 29.6 ha (21%)  
 FAR ON SITE=0.43  
 TOTAL BUILT UP=50.56 ha  
 DENSITY=121PPH

- RESIDENTIAL**
- COMMERCIAL**
- PUBLIC & SEMI-PUBLIC**
- OPEN SPACES**
- MIXED-USE**
- ROADS**



143 HOUSEHOLDS SURVEYED  
AVERAGE HOUSEHOLD SIZE 4



-Vendor surveys show 86% strata with possession of bank accounts, only 30% of which have linked these to their mobile phones.

-Digital marketing has been chosen as the primary source of advertisement while the surveyed population indicates minimal possession of digital assets and low rate of computer literacy (36%)

-Any online platform-based smart proposals including apps and smart cards will possibly be rendered futile unless awareness is spread among the locals through relatively primitive methods.



57% of people in informal sector or small scale commercial activities based around New Market



Remaining belonging to service sector

- Income range- 30k-50k
- Income range- 5k-10k rs



**BUILDING CHARACTER**  
 A G SEMI-PUCCA HOUSES PUCCA HOUSES G+1 G+2 G+1 G G+1 SEMI-PUCCA HOUSES PUCCA HOUSES G+1 B

**SCALE** 100m 200m 300m 400m 500m 600m 700m 800m 900m

**BUILDING-USE**



## INFRASTRUCURE

(IN PRIVATE AND GOVERNMENT HOUSING)



55%  
NARMADA

27%  
KOLAR

18%  
UPPER LAKE



85%  
DOOR TO DOOR  
COLLECTION

15%  
COMMUNITY LEVEL  
COLLECTION



90%  
HOUSEHOLD  
METERING

10%  
GROUP  
METERING

## INFRASTRUCURE

(IN SLUMS)

83%  
PIPED

17%  
HANDPUMP

73%  
ARRANGED BY  
MUNICIPALITY

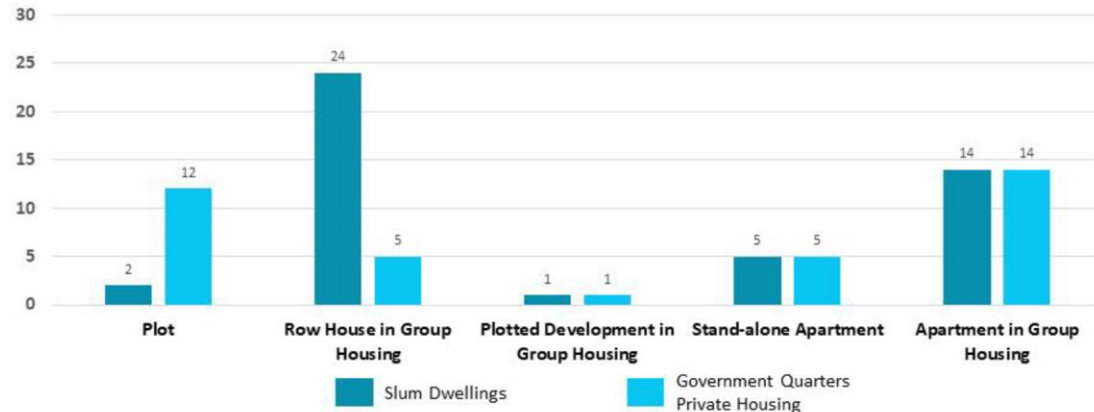
4%  
ARRANGED BY  
RESIDENTS

23%  
NO  
ARRANGEMENT

86%  
HOUSEHOLD  
METERING

9%  
GROUP  
METERING

5%  
NO  
CONNECTION



NARROW INTERNAL PATHS

GARBAGE



## CITIZEN ADVOCACY AS A HARBINGER OF CHANGE

-The proposal submitted for phase-II of the Smart city competition, held by the Ministry of Urban Development, had identified **Shivaji Nagar** as a prospective zone for ABD.

-The **134.2 ha** site adjoins T.T. Nagar and shares a similar built and social context where old buildings were supposed to be demolished to give way to business centres ultra-modern apartments. However, the **presence of vast stretches of eco-friendly areas** and green cover instigated local protests against the proposal.

-Kamal Rathi, a Bhopal-based activist and urban planner, questions the selection process and suggests other lesser developed regions like Jahangirabad, Shahjabad and Nehru Nagar show better prospects as sites for ABD. He states, "There are some issues which may pose hurdles in the implementation of the smart city plan, the most important being handing over of government land to private developers. There is an uncertainty in the PPP model of funding too, due to shortage of funds on ground."

-As a result, after large scale local community mobilization in favour to protect the ecologically viable site, the area based development project was shifted to **T.T. Nagar**.

-The current proposal documents still bear the interventions submitted for Shivaji Nagar, now to be implemented on the Landuse proposed for T.T. Nagar to avoid any further delays in execution. This approach presents several uncertainties given the two sites **don't share a similar physical context and distribution of economic opportunities**



# ABD PROJECT, T.T. NAGAR





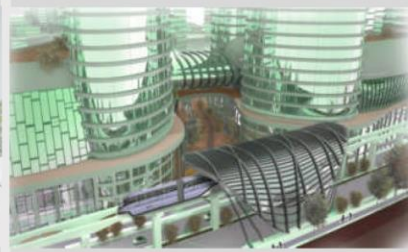
**KNOWLEDGE HUB**

The Knowledge Hub envisages to aid Madhya Pradesh's ability to create, acquire, disseminate and apply knowledge which will be key to sustaining India's future growth.



**LIGHT RAIL TRANSIT STATION**

Development is concentrated adjacent to Public Transit Points like BRT / LRT, creating multiple TOD zones



**LANDMARK TOWER**

High rise tower at central TOD junction to create strong Contemporary image of the TOD development



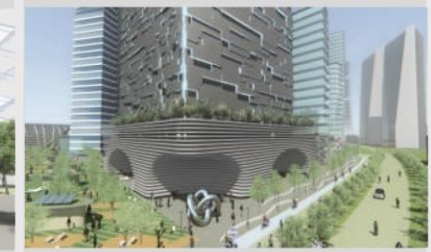
**RETAIL PLAZA**

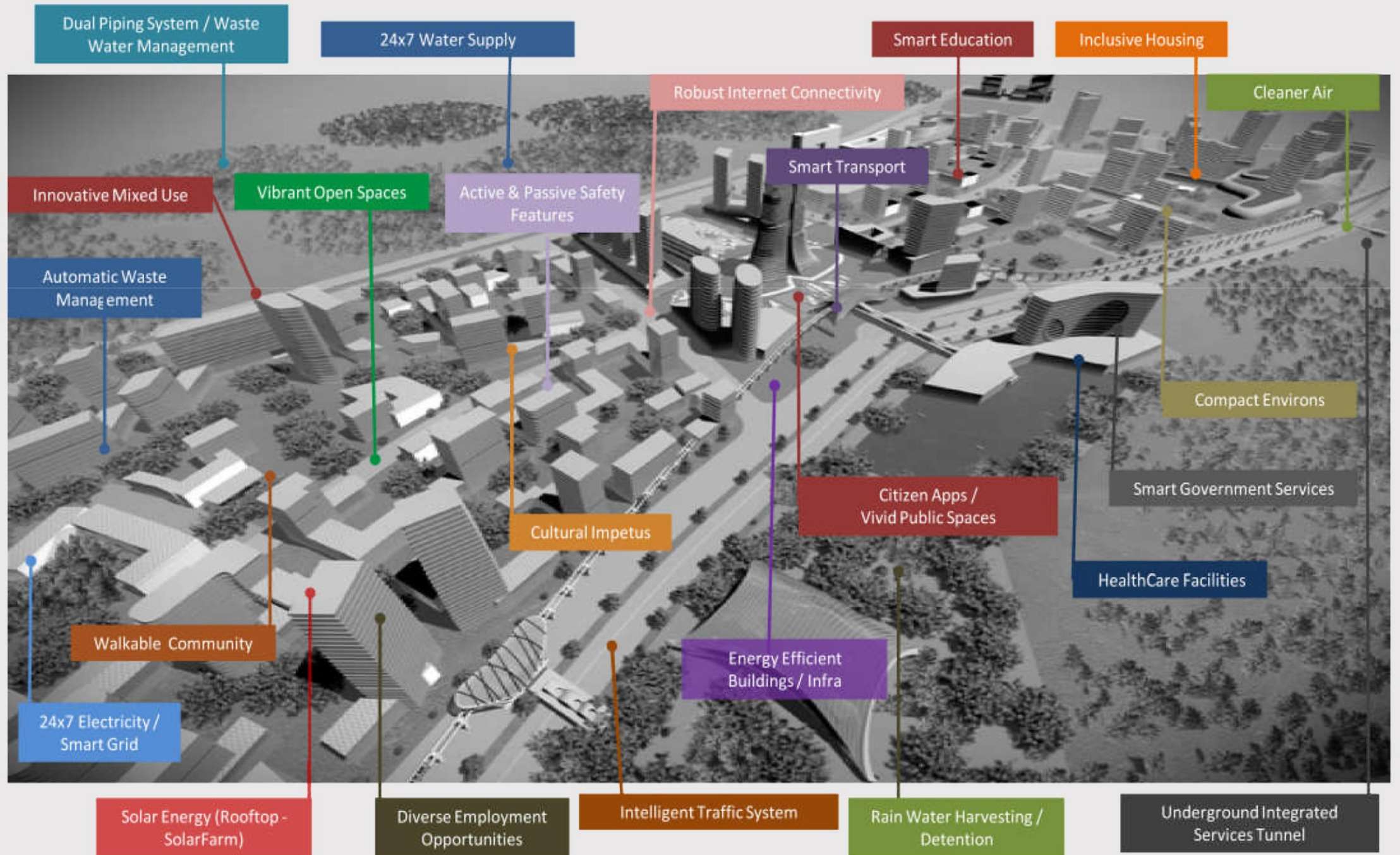
Retail hub would act as the focal point of all retail activities of region & promote economic vibrancy



**INNOVATION HUB**

The Digital Innovation Zone (DIZ) aims to promote Digital-Media, IT industry as well as companies related to the use of information, communication, and media technologies





# Proposed Master Plan



## Legend

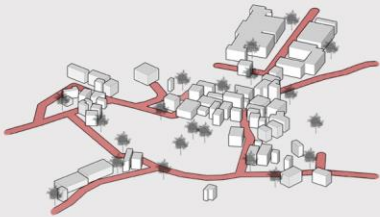
- ABD Project Boundary
- Residential
- Commercial
- PSP Public Semi-Public Land
- Green
- Utility

S. no.	Land Use Categories	Proposed land use (%)	
1	Residential	9	55.72
2	Residential mixed use	23	
3	Commercial	6	
4	Commercial mixed use	14	
5	PSP	4	20.51
6	Open Spaces	21	
7	Utilities	2	23.76
8	Roads	21	



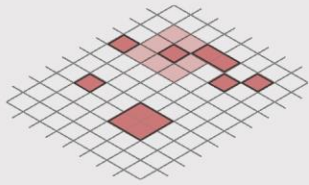
EXISTING T.T. NAGAR

COMMUNITY STRUCTURE



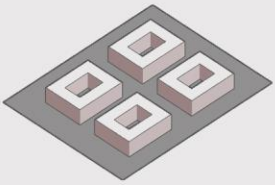
Organically developed paths and haphazardly developed dwellings

SCALE OF DEVELOPMENTS



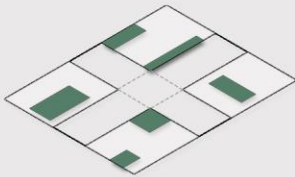
Building/ block level development

LAND POLITICS



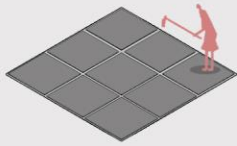
Ownership (Patta) given by govt. to long-term residents without development rights

DESIGN FOCUS



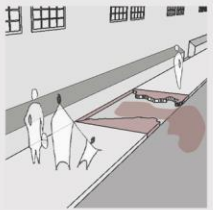
Development of community spaces

OCCUPATION STRUCTURE



Initially majority of population engaged as daily-wage workers

UTILITIES AND INFRASTRUCTURE

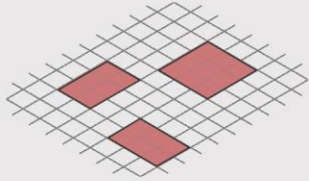


Poorly maintenance of street infrastructure

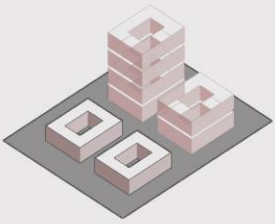
PROPOSED T.T. NAGAR



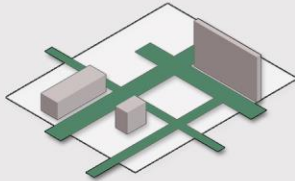
Planned townships with organized dwellings and well-distributed roads



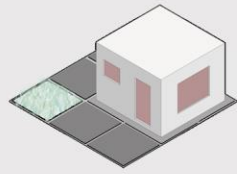
One or several estates developed at the same time



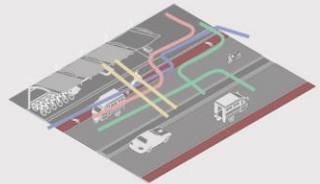
Higher F.A.R practiced for townships, intense commercial and mixed-use



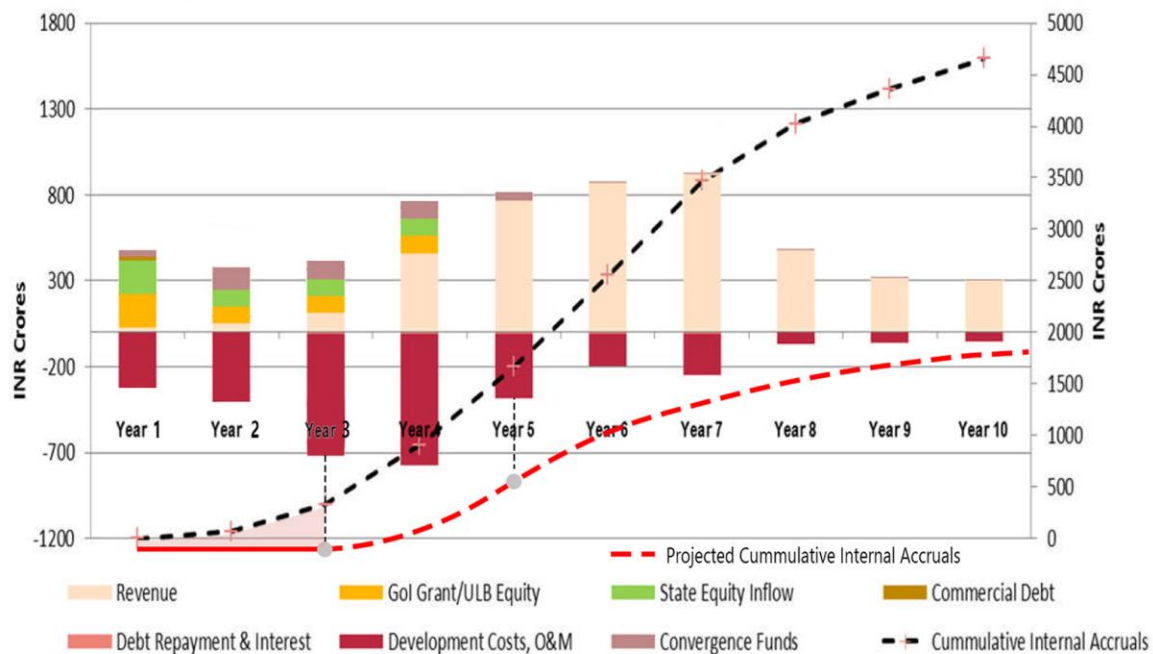
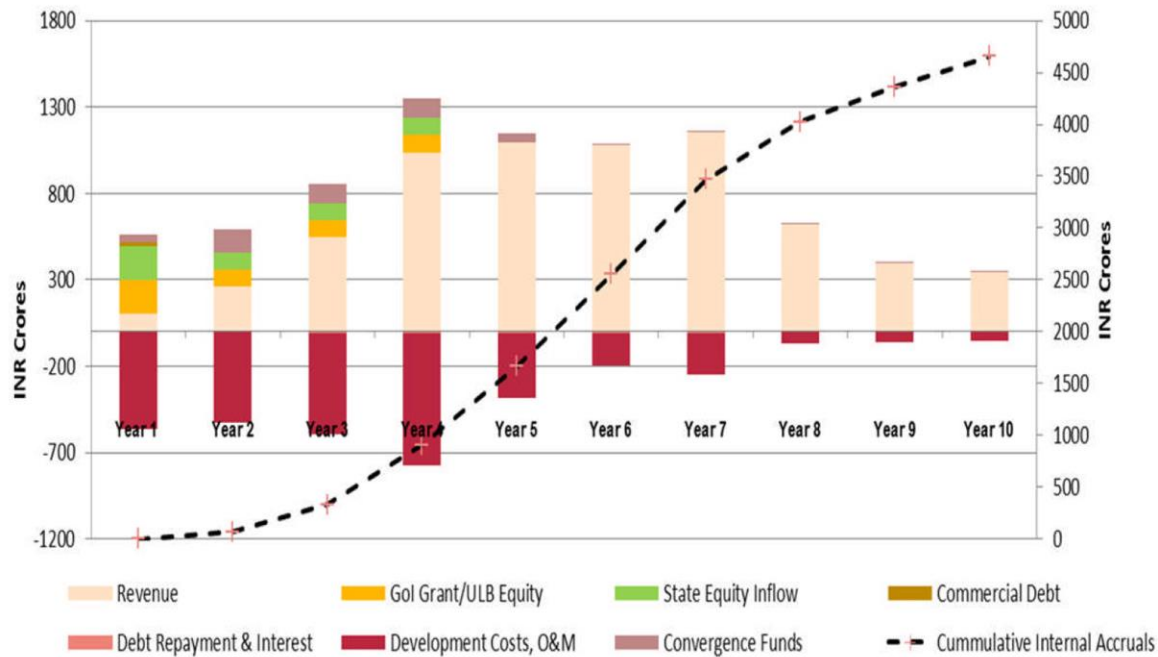
Tenure diversification without social integration



A shift in occupation structure towards private tertiary sector jobs



Better and dense network of utilities and service is proposed



### Gentrification:

- Projected maintenance costs are much higher than what the previous inhabitants can afford, forcing them to move out

### Volatile Real-estate Market:

- Absence of demand led to inefficient phasing of project, releasing funds at a slower rate.
- Private Investors pulled out eventually leaving the project stranded in the third year of implementation.
- The ongoing MRTS project was also shelved after investment stopped from JICA, putting a halt to a series of transport sub-components
- Previous residents were rehabilitated 4km away, distancing them from place of work.

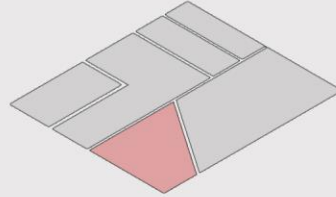
### Citizen participation:

- 87% of the surveyed population was unaware of any project under the name of Smart City Bhopal.
- Smart infrastructure displayed poor usability. For e.g. Public Bike-sharing only showed an average 10.9% ridership per day.
- Lack of citizen cooperation in O&M led repeated malfunctioning of smart-infrastructure installed.

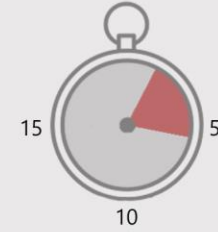
# Where does the gap lie ?



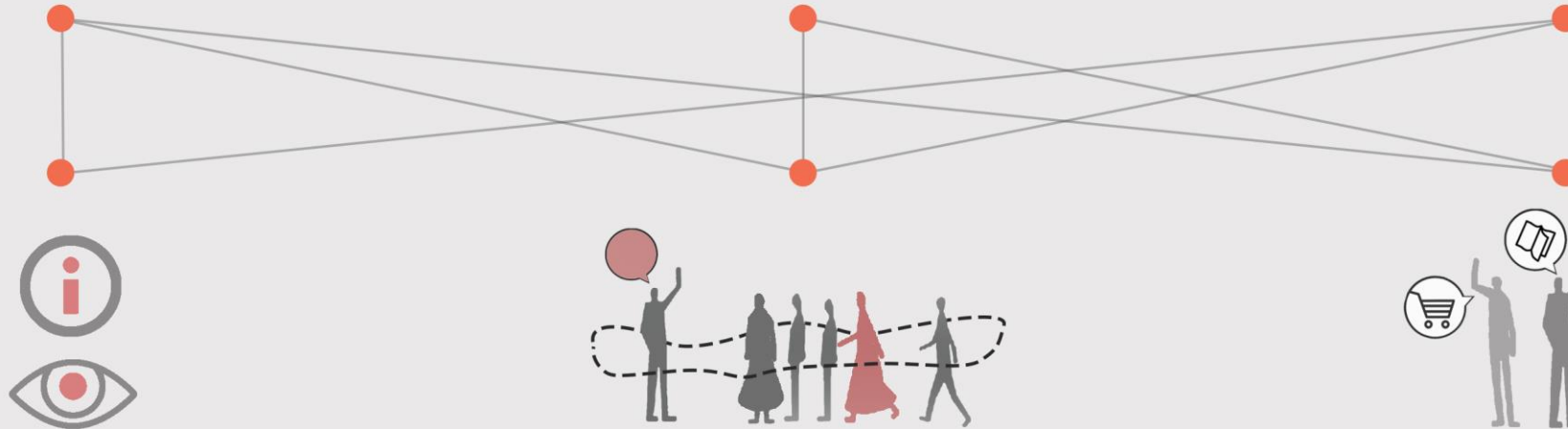
Subjecting Public projects to a free-market economy opens doors to substantial losses when socialistic roles of government are to be catered.



Volatile Land economics currently prevalent in India. Real-estate market has drastically slowed down while political interests prevent any recuperative measures.



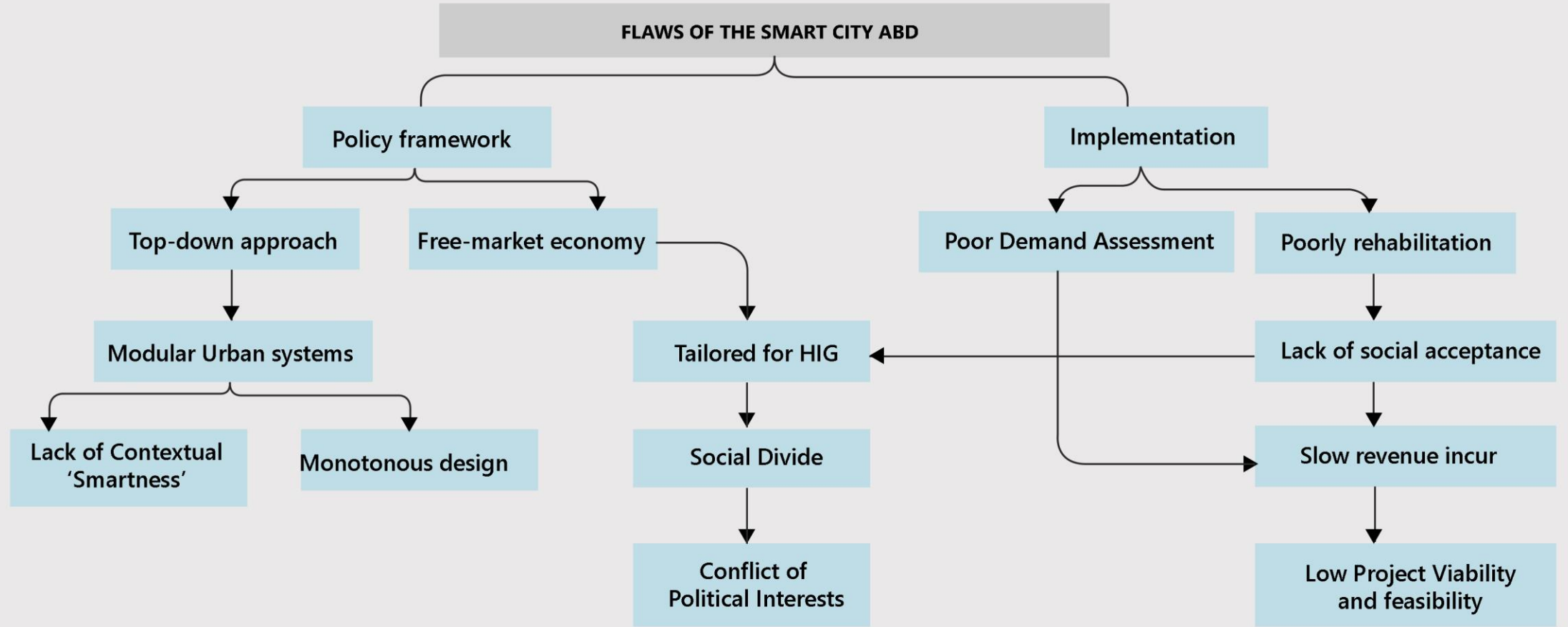
Delayed delivery eventually leads to loss of interest from investors, halted the proposed MRTS network due to withdrawal of funding from JICA.



Project legibility and reachability to the locals. Branding of Smart City is necessary to instigate cooperation and political support.

Poor stakeholder consultations and demand study led the project to lose balance due to imperfect projections and phasing.

The plan failed to attract from stakeholders due to contextual indifferences in terms of what was acceptable and what was offered.



## Conclusion

Markets offer prospects to an invisible discipline of mutual benefits and needs; they simply reciprocate the social context. The socialistic role of a government can be supported by contextual attributes, further influencing real estate and financial substructuring of an area

Communicating  
idea of 'Smart' City

Proper land mapping and  
social benefit analysis

Detailed socio-economic  
stakeholder study