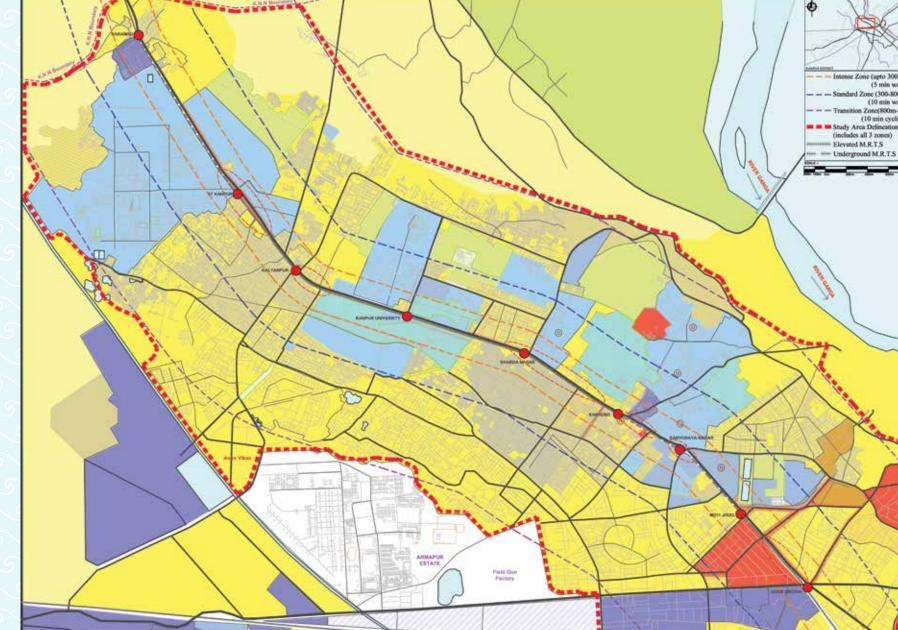
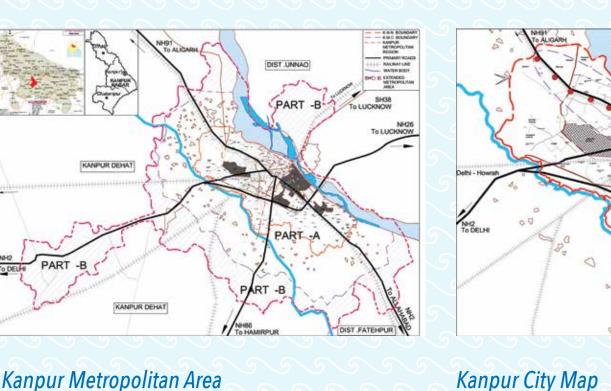
# IT'S NOT JUST A STOP, IT'S A DESTINATION

## INTEGRATED DEVELOPMENT OF A METRO CORRIDOR



Dileanation of the Study Area



Kanpur Metropolitan Area Source: Kanpur Masterplan 2012

Source: Kanpur Masterplan 2012

A combination of high population growth rate and economic boom in Kanpur encouraged an uncontrolled fast paced expansion without the necessary decentralization of industrial, commercial and educational activities. Due to concentration of these activities most development has taken place in the central city area. A large number of people reside within this area and it reveals a high growth rate. The density is 6 times the outer areas. For a sustainable and inclusive development of Kanpur steps to decongest the inner core are required.

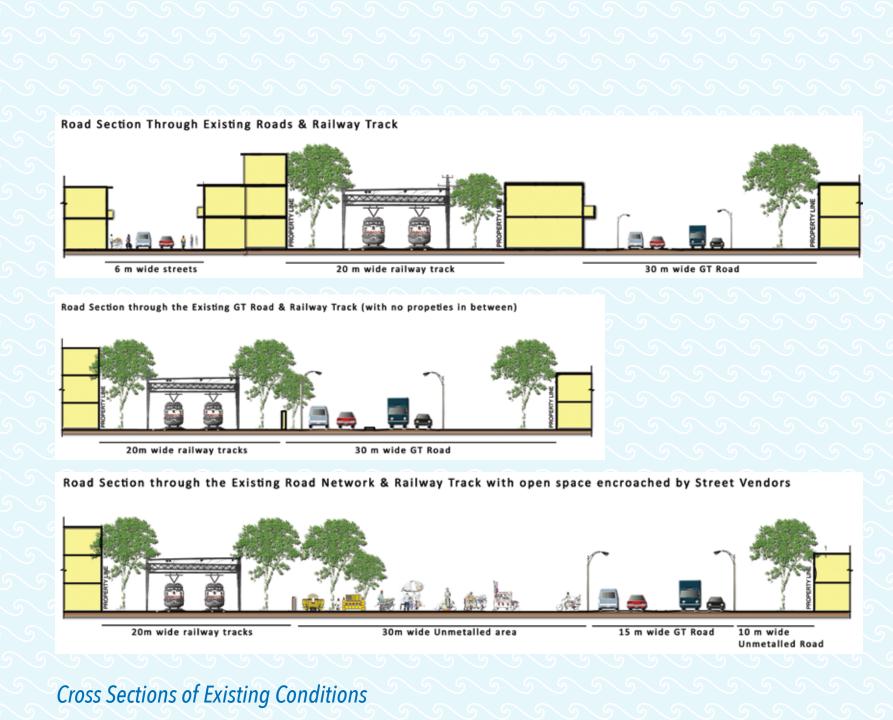
### How does Kanpur move?

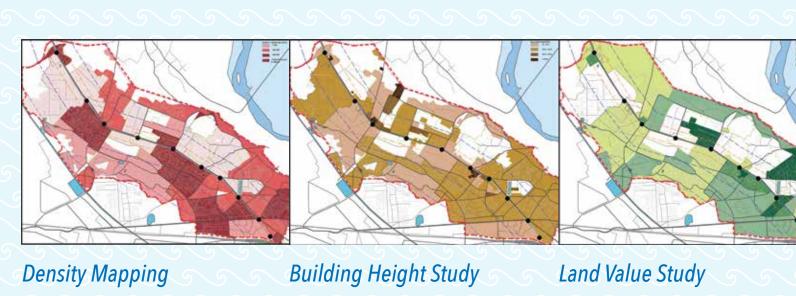
The unorganized transport system and the increase in the number of private vehicles due to lack of public transport facilities are reasons for unequal development. Reforms of the planning strategies are needed furthermore because of

- Mixing of all types of modes of transportation in the major routes,
- Narrow vehicular lanes
- Lack of space for :
- o IPT (Intermediate Para Transit 3 wheeler auto, tempo)
- o NMT stands (Non-Motorized Transport like cycles, rickshaw)
- o Parking

76% of transportation consists of slow moving modes like cycle, rickshaw, horse carts, etc., which cause delay in the traffic

Lastly, a railway track runs adjacent to the GT road (NH91) through the city bisecting it into two halves. Thorough movement of rail on this track causes traffic jam all throughout the day over this GT road. The large number of railway signals makes the city traffic stand still during each rail movement.





### To solve the issues of decentralization, traffic and transportation and road congestion the Mass Rapid Transit System needs to be integrated with the development proposals of the corridor, which

- Revival of transport network and traffic
- elevated metro route. Restructuring of the built structure and

Removal of railway line and construct an

management of density pattern. Management of the land use patterns.

### TRANSPORTATION

The recommendations deal with improvements in Connectivity, Accessibility, Travel character, Transportation modes and Parking.

- As per the distance from the metro stations, the areas have been classified into different influence zones:
- o First 300 m around metro station -Intense zone
- o 300 m 800 m around metro station -Standard zone
- o 800 m 2000 m around metro station -**Transition zone**
- Increasing road width to 4 lane, adding cycle track and footpath, new bus routes, parking connectivity of the area.
- The space below the proposed elevated metro tracks needs to be used for the movement of feeder bus service and pedestrians.

### Provision of rickshaw, auto and cycle stands within 100m from the metro stations. Bus stops have to be located within 500 m, for the inter linkage of different modes of transportation.

### **BUILDING REGULATIONS**

The recommendations of building regulation deal with:

Linkages of Differnt Stakeholders

- Built Form
- Street Character
- Building Bye Laws Building Density
- Building Layout
- Building Height

### In order to fully utilize the intensity of development in various zones and to restructure the built form, several changes have been suggested in building regulations. The city had irregular density pattern which varied from 100 pph (persons/hectare) to 600 pph and had buildings, which were 3 to 5 floor on average. The changes now suggested comprises of:

### Intense Zone:

800-1000 pph density | 8-15 Floor building height | 3.0 - 4.0 F.A.R

**Standard Zone:** 600-800 pph density | 4-8 Floor building height | 2.0 - 3.0 F.A.R

**Transition Zone:** 

400-600 pph density | 3-4 Floor building height | 1.0 - 2.0 F.A.R

### LAND MANAGEMENT

Land Use Percentage for

Delieanated Area

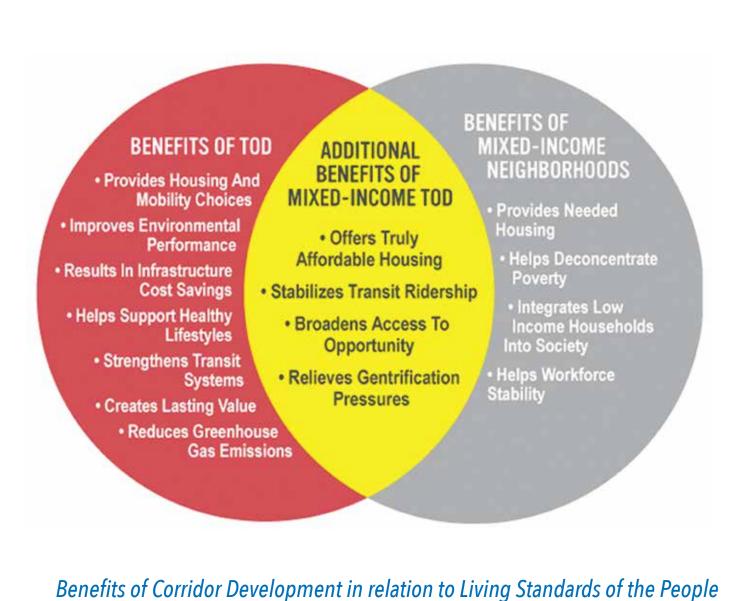
Residential
Mixed Use
Commercial
PSP & Institutional
Industrial
Agriculture/ Open green
Traffic & Transport
Special Area

The recommendations for land management deal with: Land Use, Land Ownership and Land Value

- Metro stations will be developed as the nodal centres of commercial activities so that the decentralization of commercial activities takes place from the core city area.
- Change of land use to Mixed use needs to be permitted within the entire Influence zone.
- New commercial hubs and residential areas have been proposed in the areas where Land Use conversion is taking place.

# CORRIDOR DEVELOPMENT

Different Activities linked to Corridor Development



### For implementing the recommendations, following actors have to work together:

 Development Agencies (KDA-Kanpur Development Authority, Nagar Nigam, DUDA-District Urban **Development Authority, Kanpur):** 

These development agencies are responsible for the planning of the entire corridor. Suggestions given in terms of Land Use changes and Building Regulations have to be managed by these authorities.

Corporation, Transit Agencies, UPSRTC):

Planning of the metro route and location of metro stations will be managed by the DMRC (Delhi Metro Rail Corporation) in collaboration with DUDA. The transport department needs to manage the new possibilities for the NMT, IPT and city/ feeder bus

### Uttar Pradesh Housing and Development Board:

The Housing and Development Board has to take the necessary steps to facilitate changes in the housing pattern, their typologies for the zones along the corridor, changes in FAR (floor area ratio) and the density pattern.

## Landscape Designers, Architects and Builders:

These professionals should be made aware of the concept of integrated development. They can contribute through a holistic design of buildings as wells as green and open spaces.

### Tax department:

Decentralization of different activities will open opportunities for new setups as well as improvement of the earlier situation. This requires management of revenue and financial aspects.

### Small and medium enterprises

Decentralization of commercial activities from the city centre to other parts of the city opens up new centres for commercial activities and options for small and medium enterprises.

### Pollution Control Board:

Reduction in vehicular movement, introduction of CNG vehicles, and removal of diesel operated transport vehicles will help in reduction of polluting contents, which will open new opportunities for the board.

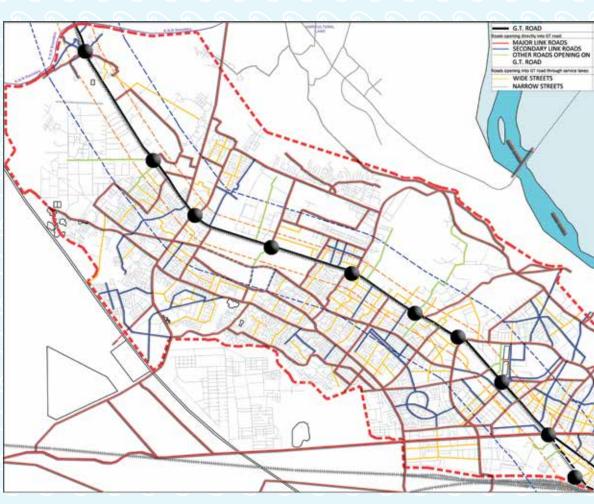
### Common public:

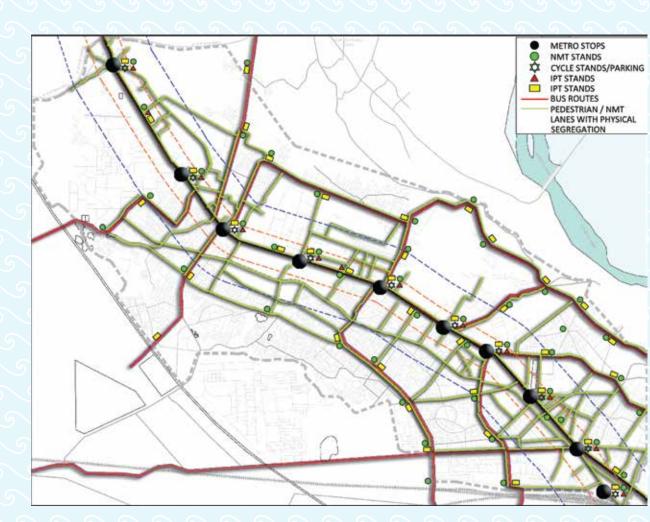
For the citizen not only their transport facilities will improve but the overall urban experience will change.

### better transportation and road network new residential areas with high intensity of development

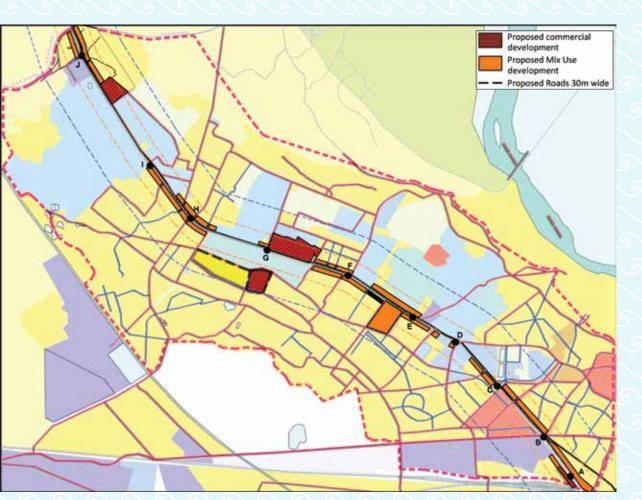
- provision of better housing opportunities
- more commercial opportunities in upcoming metro stations,
- more green areas,
- less pollution,
- well managed and segregated traffic into lanes,
- metro connectivity and new nodal centres

Hopefully this creates ownership of the newly developed spaces and awareness for sustainable transport and change in behaviour.

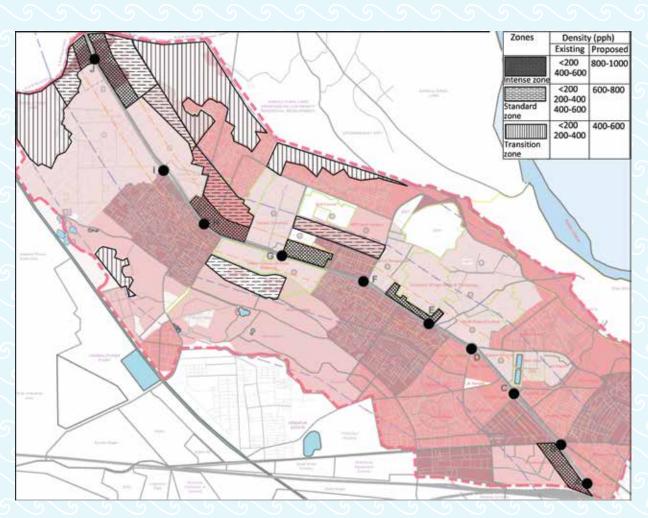




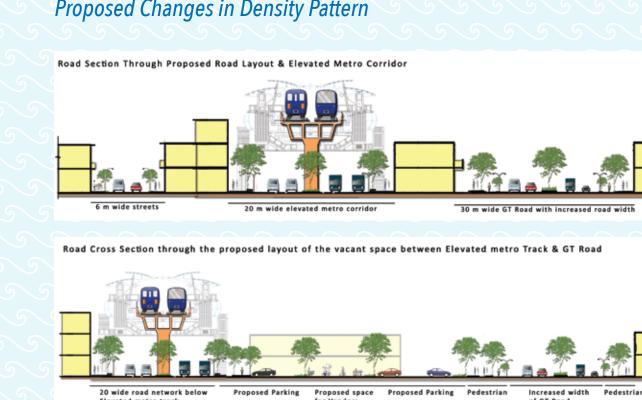
Proposed Location of Different Modes of Transportation



Proposed Changes in Land Use Pattern



Proposed Changes in Density Pattern







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During his studies and professional experience of one year in the field of architecture, he has worked on several projects, which include his research work on Under Water Construction Techniques, Designing of Commercial Complexes, Corporate Offices, Hotels, Hospital, and Residences. His interests include Urban Re-development, sustainable approach towards planning and Disaster Management.

Currently he is working at Clean Air Asia in the field of sustainable transport and provision of services for Disabled, Pedestrians, Cyclists and Low income groups.

