



TOD POLICY IN NAVA RAIPUR ATAL NAGAR (NAYA RAIPUR) -- ENHANCING NMT

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TRANSIT ORIENTED DEVELOPMENT (TOD)

*“This is a form of urban development that clusters a greater **mixture of land uses** around a **high quality transport service**.*

*The **transport node**, either train, light rail or bus terminus is designed to be the **focus for the development** and ideally becomes the **community 'heart'**.*

It is where people shop, work, meet, relax and live.”

GOALS OF TOD



The Primary Goals of TOD are to:

- Prevent/discourage private automobile dependency and **encourage public transportation use** by making it more accessible and attractive.
- **Encourage higher density and diversity within walking distance** of public transportation - creating attractive and vibrant places.
- Provide enhanced connectivity by **offering a greater choice of motorized and non-motorized transportation modes.**
- Interventions- To Reduce TRIP length

NAVA RAIPUR ATAL NAGAR



The Development Plan-2031, of Naya Raipur was published in 2008 & it mentioned:

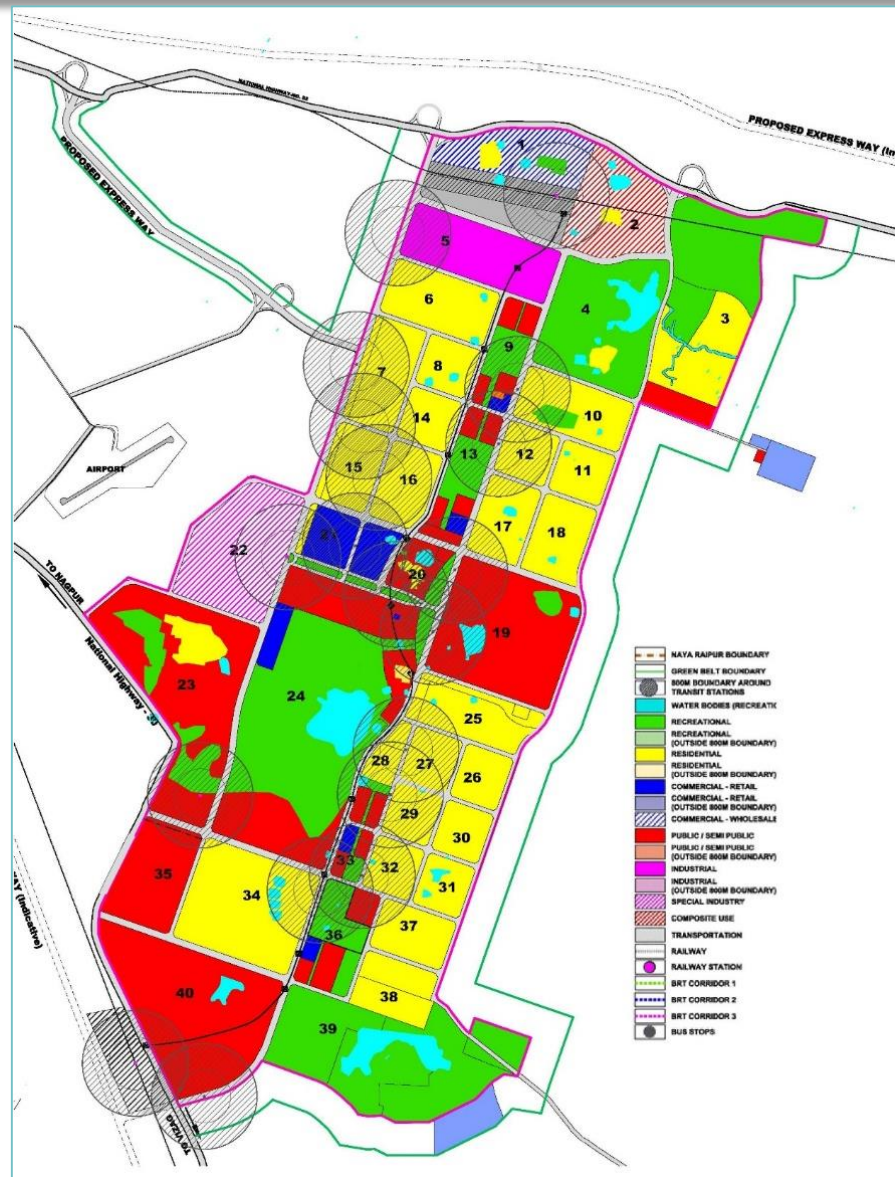
“Bus Rapid Transport System (BRT) would form the core of a mass transportation plan for Naya Raipur. Dedicated bus lanes, cycling tracks and safe pedestrian walkways would complement the BRT and help the development of an energy efficient and environmentally sustainable city. The road sections and junctions would be designed to be friendly for children and persons with physical disabilities.”

Form of Nava Raipur Atal Nagar city



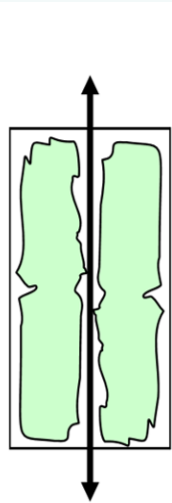
The development plan itself had basic ingredients of TOD

1. 18 to 20 Km * 4 to 5 Km- 8000 Ha or 80 sq km
2. 100 m Central Spine from North to South
3. Facility Corridor along central spine.
4. Distributed Residential sector Cluster .
5. Major work areas : Offices & CBD central & close to Residential sectors

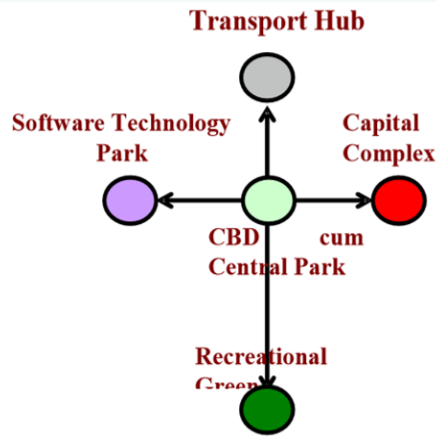


Form of Nava Raipur Atal Nagar city

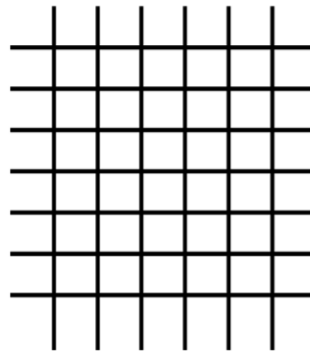
The physical form of Atal Nagar has been developed in conformity with the overall vision of a Smart and eco-friendly city.



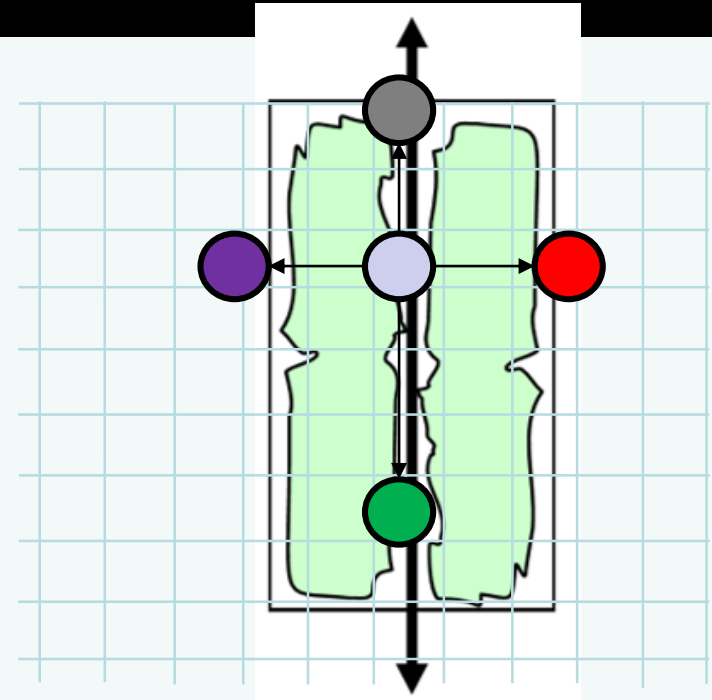
1. Linear



2. Cruciform



3. Grid



The transport system plan is prepared in integration with the land use plan

- Interlinking activities
- Enabling high accessibility
- Smooth flow of people, vehicle and goods
- Enhancing mobility of all on an equitable and affordable basis

DYNAMIC DEV PLAN - TOD

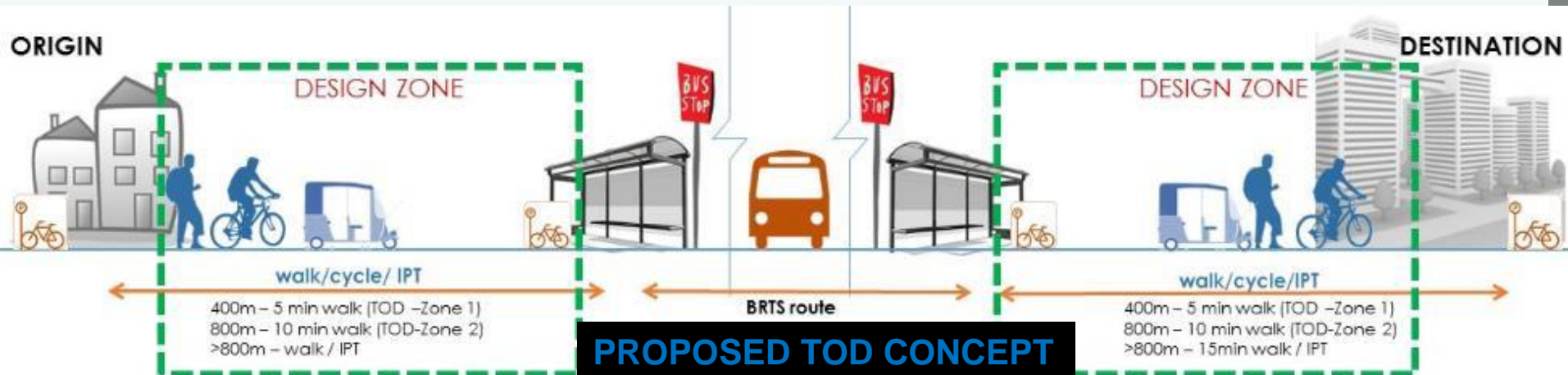


- **It was felt that in addition to the existing Best Urban Planning Tenets the City of Naya Raipur shall also be a pedestrian and transit friendly city.**
- **Therefore, in 2012 a study was conducted with the help of World Bank which included Baseline Studies, Interactions with the experts and the stakeholders, International Best Practices on TOD & Organising Charrette etc.**

IN 2015, TOD was ADOPTED and a chapter on TOD was added in the DP.

Transit Oriented development

- Multimodal Transit Station
- Interconnected Streets
- Mixed Use Development
- Walkability
- Compact Development and Street Facing Buildings
- Urban Place making and Streetscape Design
- Bicycle Friendly Streets / Parking
- Urban Parks & Plazas and Architectural Variety
- Well-Designed Transit Station for a High-Quality User Experience
- Reduced Parking Standards
- Safety & Security/CPTED
- Market Acceptance and Successful Implementation



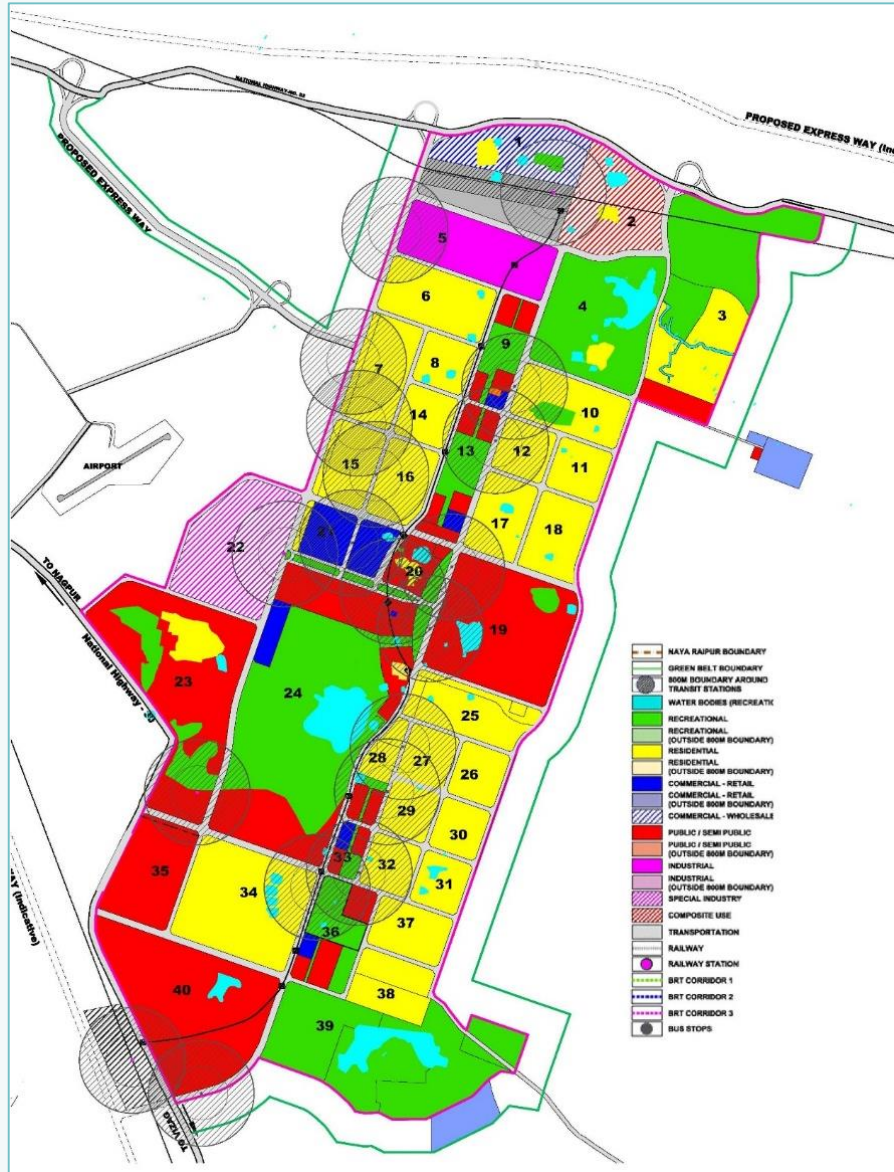
TOD Station Area Zones: Description

TOD Zone	Primary Station Area	Secondary Area	Catchment Area
Radius	0-400m / 5 minute walk	400-800m / 10 minute walk	800m-2km
Description	The primary zone includes the rapid transit station and associated facilities as well the immediately surrounding area.	The secondary zone extends between 400 and 800 metres from the rapid transit station.	The catchment area is the broader area of influence outside of the station area. Most of the people who access the regional rapid transit system will come from the catchment area.

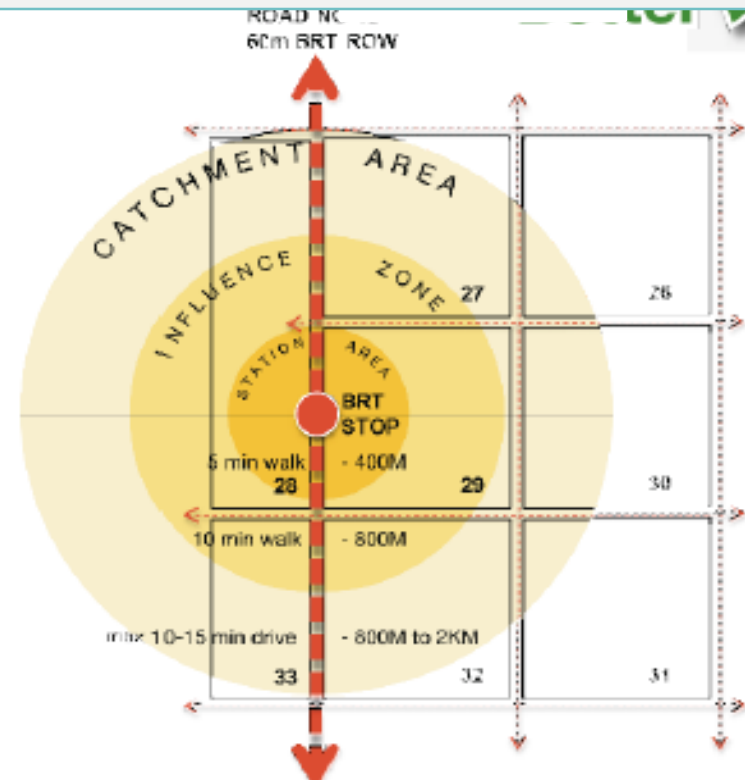
TOD Station Area Zones: Landuse

TOD Zone	Primary Station Area	Secondary Area	Catchment Area
	0-400m / 5 minute walk	400-800m / 10 minute walk	800m-2km
Land Use Considerations	<ul style="list-style-type: none">• Highest Density & Mixed Uses to encourage high ridership & provide a mixed-use, vibrant activity spine• High level of amenities – retail, bike parking, businesses, traffic calming etc.	<ul style="list-style-type: none">• Medium densities & mix of uses to benefit from the high level of transit accessibility• Density & height of development should be stepped down gradually towards the periphery.	<ul style="list-style-type: none">• Medium – lower density developments• Create open space linkages & green connections.

Demarcation of TOD Stations



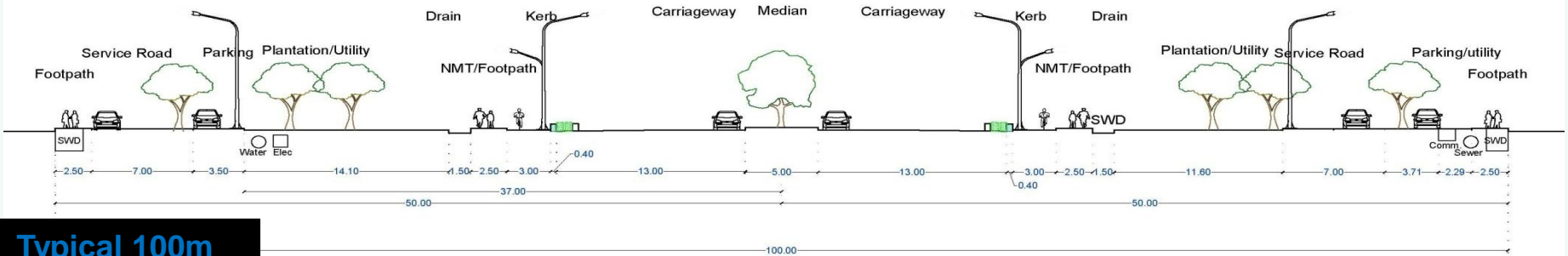
- Station Areas are defined by a 800m / 10 minute walk distance as radius from the TOD point.
- Station Area comprises of multiple zones with their own transportation and land use characteristics with a catchment area



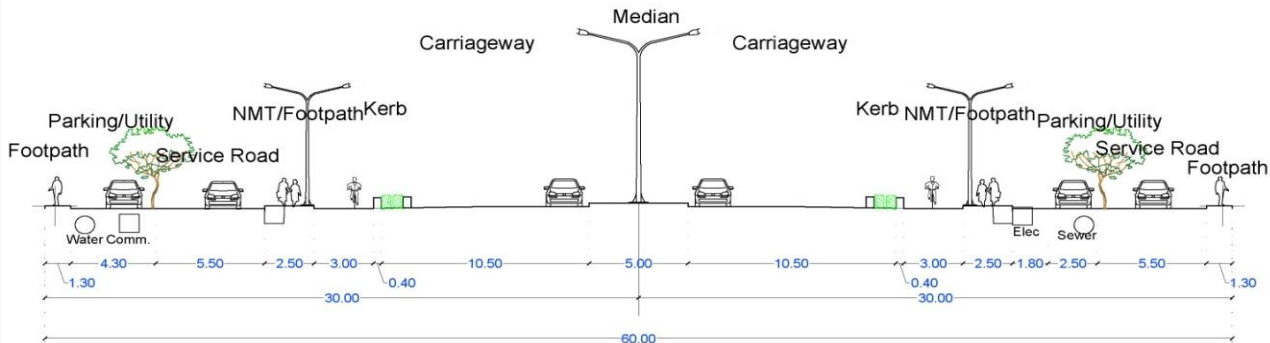
Hierarchy of Roads

Hierarchy of Roads & Network System

- A hierarchy of road widths are defined and the major roads provide access to abutting properties only through service lanes.
- The access to the activities inside sectors is made via the internal road system, linked to the main roads.
- The major pedestrian corridors combined with cycle tracks run along the city level roads; also passes through the central park, the cultural complex and the CBD.

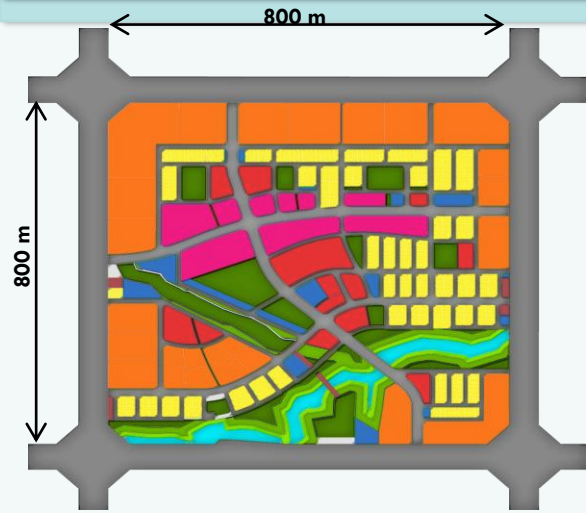


Typical 100m Road



Typical 60m Road

Planning adhering to TOD principles

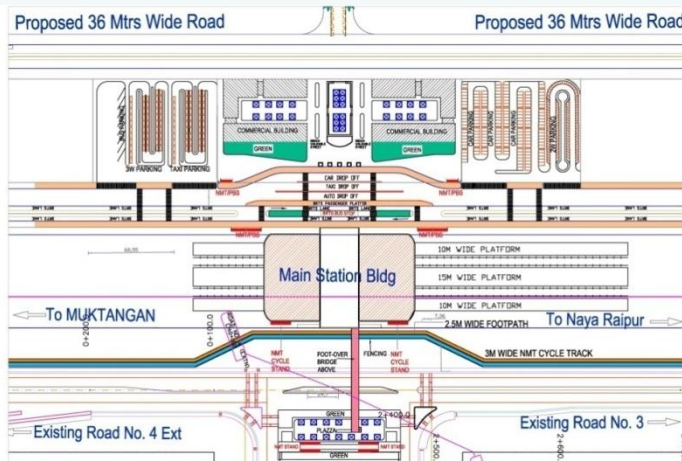


Planning of Sector 12 (a Resid. sector)

- High-rise high-density development along periphery of sectors facing city level roads with access to BRTS.
- Plotted development in residential areas more in Outside TOD zones.
- Enhanced commercial and mixed landuses along city level roads in TOD 5 and TOD 10 areas



Conversion of green strip to Mixed Landuse along certain sectors



CBD Railway station

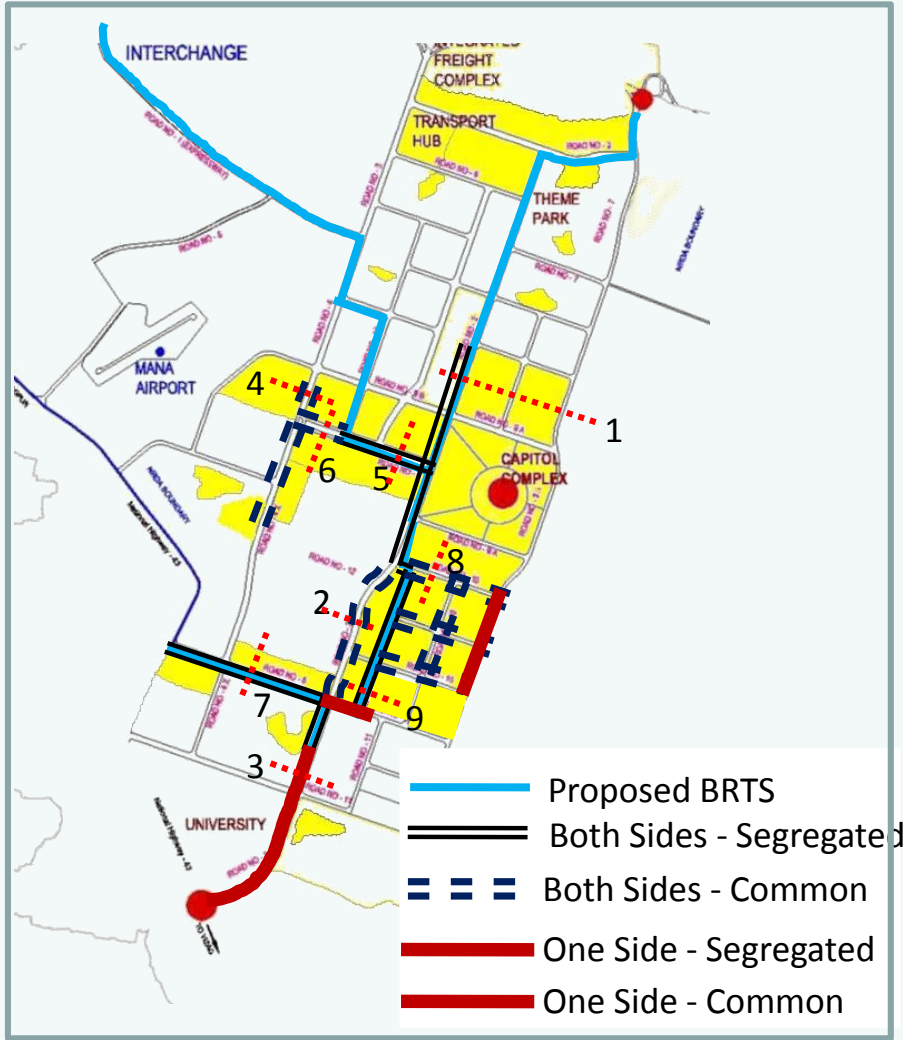
Multi-Modal Transit Hub planned and being developed at the termination of the central monumental axis of the city.

Prioritization of Modes of Transport

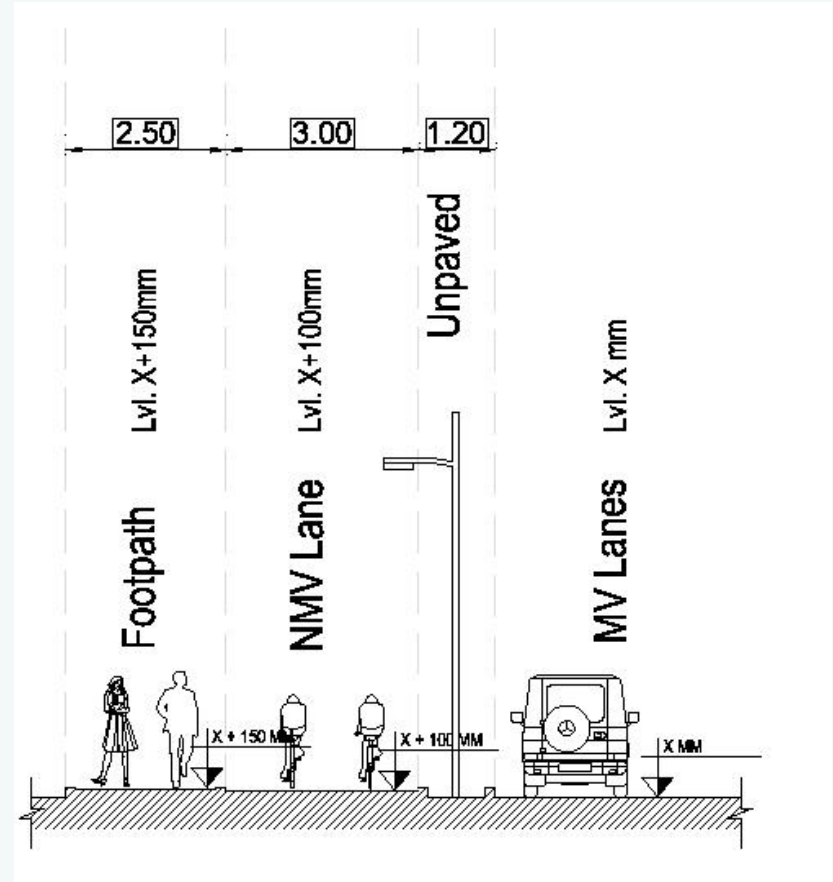
1. NMT (Pedestrian & Cycles)
2. Public Transport System WITH Dedicated lane provisions for BRTS – Initially Soft Segregation.
3. Private vehicles

Priority 1: NMT

Cycle & Pedestrian tracks along roads

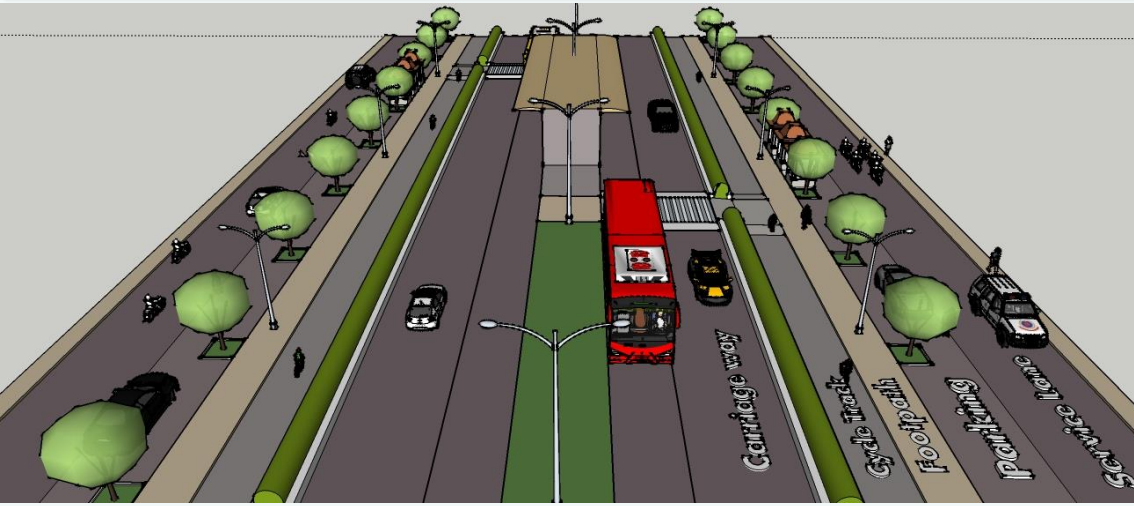


NMT Routes



Pedestrian & Cycle tracks along Roads

Priority 1: Planning for NMT



JUNCTION

Intermodal and Seamless transportation

NON MOTORISED TRANSPORTATION

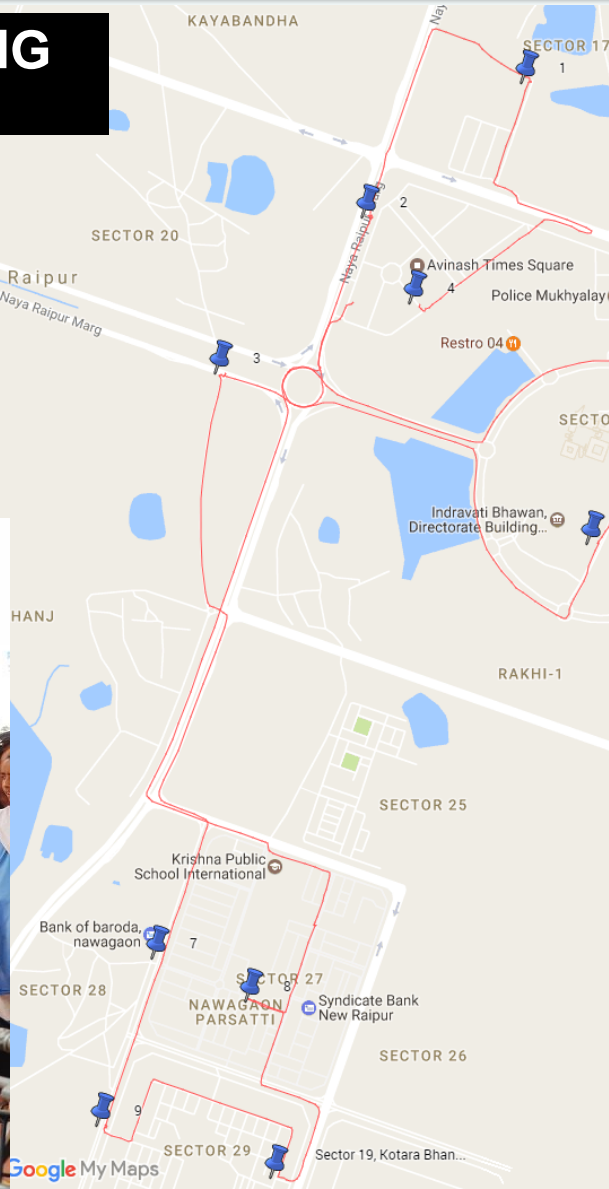


Intermodal and Seamless transportation

PUBLIC BIKE SHARING (PBS)

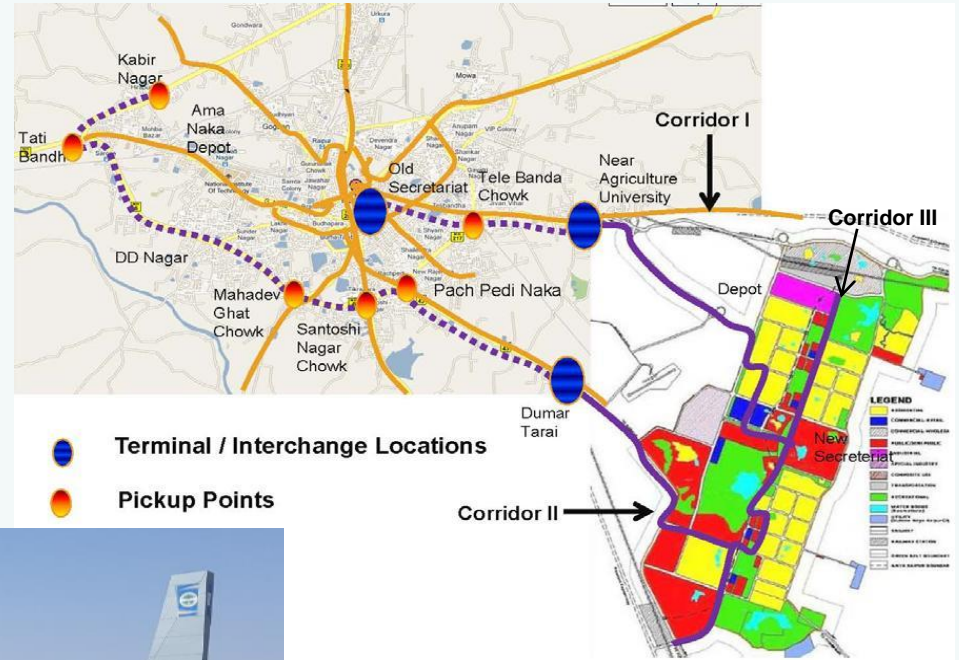
Location Detail

- 1-Sector-17
- 2-Sector-19 (Forest Dept)
- 3-Ekatm Path
- 4-Sector-19 (Jail/Home guard Bldg)
- 5-Mahanadi Bhawan (Near BRTs Stop)
- 6-Indrawati Bhawan (At BRTs Stop)
- 7-Sector-27 (At BRTs Stop)
- 8-Sector-27 (In Front of Park)
- 9-Sector-29 (At BRTs Stop)
- 10-Sector-29 (In Front of Park)



Priority 2: Public Mass Transit System

- Railways
- Bus Rapid Transit System (BRTS)
- Light Rail Transit System (LRTS)



Source: Bus Service Plan Report by EMBARQ



Design Ensuring Safety



Pedestrian priority : design of pedestrian and NMT friendly junctions, paved table top crossings



Seamless movement of pedestrians, bicycles, wheelchairs, strollers offering

Design Ensuring Safety



High speed roads-defined NMT, green belt, medians & street lighting an Inclusive design



Rotary for traffic management, Lay-bys for undisturbed traffic movement & safety

Design Ensuring Safety



LED Lighting for road safety and Road signage for driver's convenience



THANK YOU