LEADERS-5 : ASSESSMENT OF PROGRESS MADE

A Project on

Formulation of Corridor Level Plan For Southern Periphery Metro Transit Corridor - Gurgaon

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Need, Objective and Scope of Study

PROBLEM STATEMENT

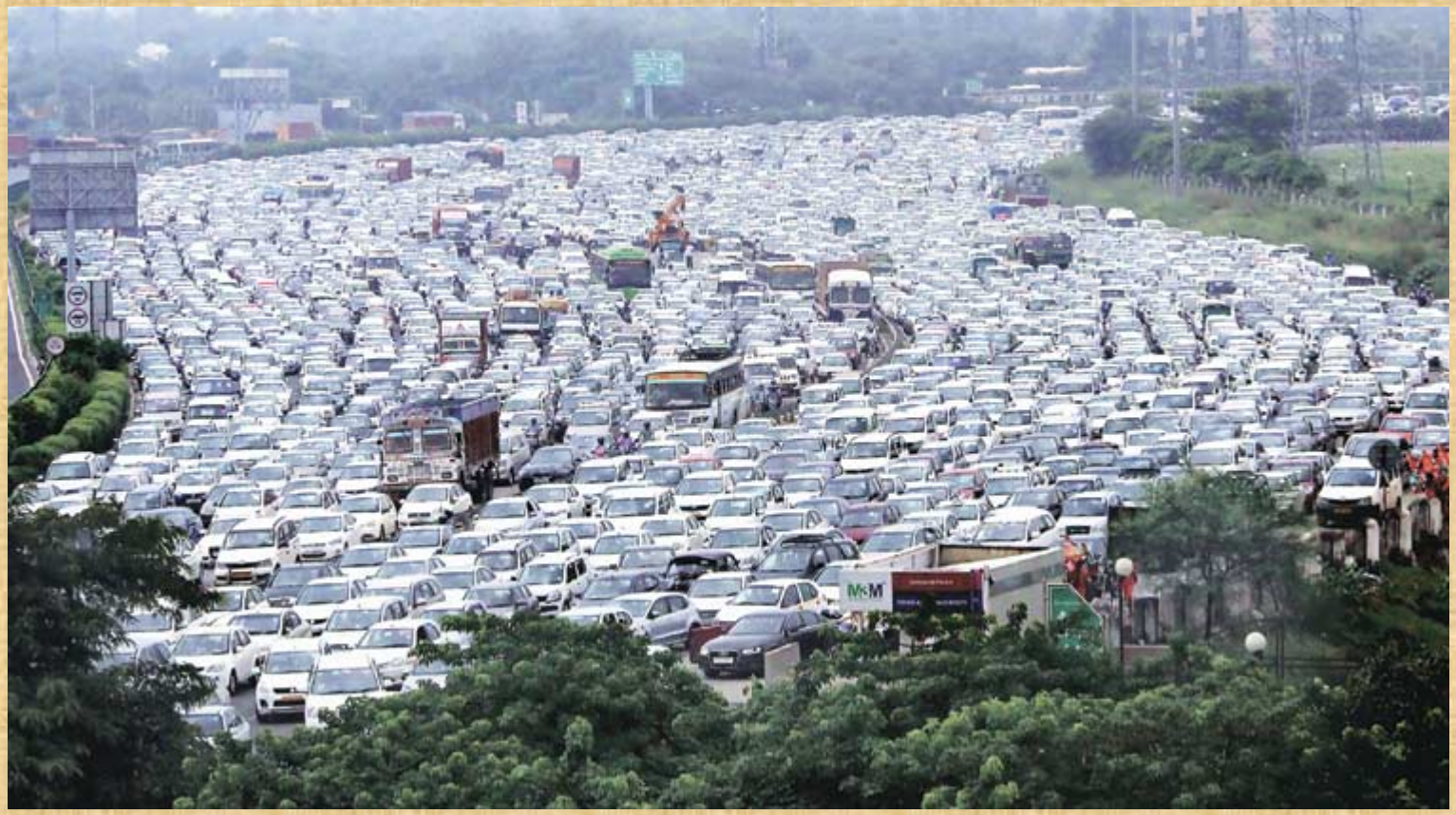
Problem Statement

- Worsening Traffic Congestion
- Uncomfortable & Unaffordable Mobility Options
- Environmental Degradation
- Social Inequality
- Lack of Safety- Road accidents

More CARS & Demotion of Public Transport.

Segregated Land Uses	• *Increased no. of Trips*
Large Urban Block Perimeter	• *Non- walk able blocks*
Supply of Extra Wide Roads and urban sprawl	• *Encourage Cars*
Lack of Street Infrastructure	• *Lack of Safety*
No Proper Footpaths	• *Discourage walking*

Massive Traffic Jam at Gurgoan on Delhi –Jaipur National Highway in August 2016



NEED FOR TRANSIT ORIENTED STRATEGIES FOR INDIAN CITIES

TOD a smart growth strategy to shift people from private vehicles to public transportation by offering more attractive alternatives like:

- low cost, comfortable, non-motorized transport
- pleasurable walking experiences
- easily accessible and comfortable mass transportation with easy, convenient and comfortable intermodal transfers for last mile connectivity

The National Urban Transport Policy (NUTP) 2006 has also advocated promotion of TOD concept for Indian cities

All cities where metro system are being planned are restructuring their cities based on TOD

NEED OF THE STUDY

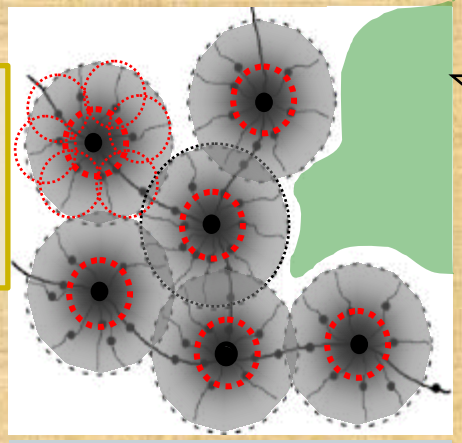
Population of Gurgaon is expected to increase from 22 lakhs to 41.65 lakhs by the year 2031 as per Development Plan of GMUC.

As the construction of Metro system entails huge capital investment for its construction, operation and maintenance, TOD becomes imperative to ensure smart growth and financial sustainability.

In the absence of appropriate policy guidelines for formulation of Corridor level plan in TOD or DOT (Development Oriented Transit) policy in Gurgaon, it is necessary to evolve a corridor plan to regulate the land use and frame zoning regulations for TOD//DOT in SPR which is also known as Golf Corse Extension road.

Auto-Oriented City

SHIFT



Transit-Oriented City

Image Source: UTTIPEC,2010

AIM

To evolve Land use Zoning Regulations for better accessibility in TOD/DOT alongwith SPR Metro Corridors in Gurgaon

OBJECTIVES

To appreciate and understand the concept of Transit Oriented Development (TOD) or Development Oriented Transits(DOT)

To review best practices of TOD around the globe and its related land uses and zoning regulations.

To Prepare a Land use Zoning Regulations for corridor level Plan proposed TOD/DOT corridor on Southern Periphery Road which is also known as Golf Course Extension Road, Gurgaon

RESEARCH METHODOLOGY

Problem Identification- based on background study and finalisation of study objectives

Literature Review (Phase -1)

Data Collection (Phase-2)

Primary

1. Real Estate Survey
2. Metro User Survey
3. Reconnaissance Study

Secondary

1. Review of Existing Development Plan and zoning regulation and TOD policy .
2. Detail about metro corridor alignment and area under development /developed
3. Ridership details.

RESEARCH METHODOLOGY

Data Analysis

1.Land Use Pattern/Built up space around Southern Periphery Road TOD corridor .

2 Metro User Characterises and other stakeholders.

3. Status Public Transport & NMT Road Network Supply in catchment area of existing metro stations sector -29 Gurgaon

Corridor level Plan for Southern Periphery Road (SPR)

PRIMARY DATA COLLECTED IN PHASE-2

- **PRIMARY SURVEYS**

1. Land use survey along existing metro operational corridor and SPR
2. Metro user surveys regarding willingness to walk at HUDA city Centre Metro Station
3. Real Estate Surveys / Builder consultation in the TOD workshop

- **SECONDARY DATA**
- Number of licence granted on SPR and status of construction and areas available for future development and NMT

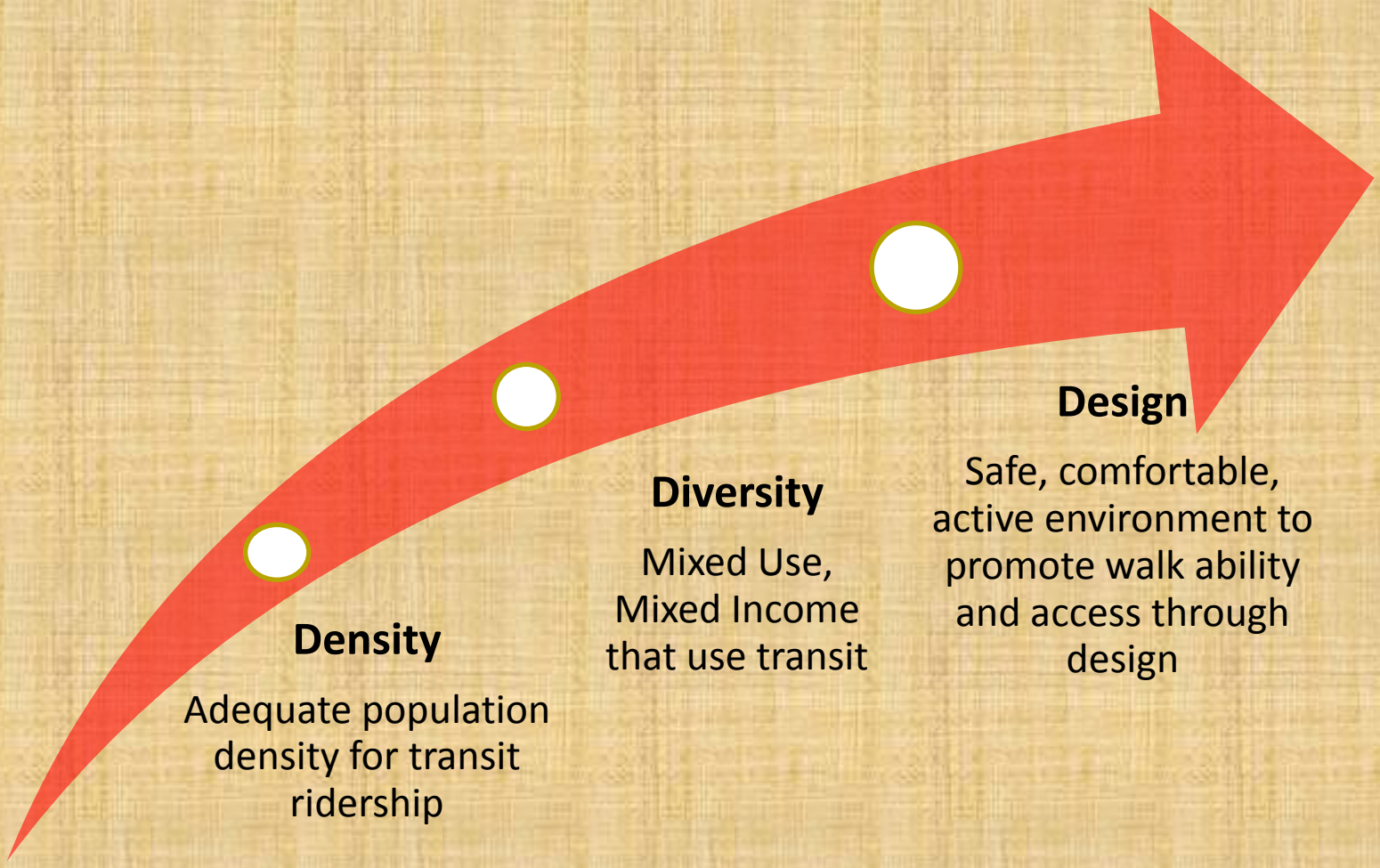
SCOPE & LIMITATIONS

1. The study was based on secondary data and further supplemented by limited primary surveys.

2. Purposed corridor level plan for Southern Periphery Road in Gurgaon shall be recommended and father ground truthening is required .

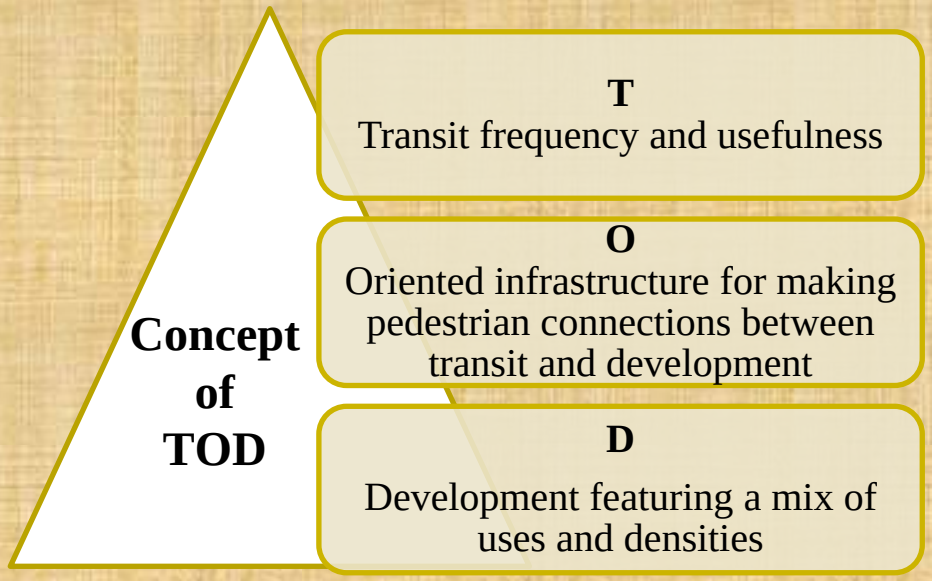
Concept of TOD

CONCEPT OF TOD



HOLISTIC CONCEPT OF TOD

TOD is about densification and redevelopment along with transport corridor , it is also the Integration of various components of Sustainable Community Planning into a holistic framework



KEY COMPONENTS OF TOD

Improved Densities

Increased population and employment densities place more potential riders within walking distance of transit station /stops.

Mixed uses

Retail, office , residential and public space promote concentration of public activity around transit station/stops, increasing physical and cultural prominence of transit in the community, as well as facilitating trip changing linked to transit

Pedestrian Orientation

Placing daily goods and services, as well as recreational destinations, within walking distance reduce use of car supporting transit use for commuting and other regional travel; orienting building entrances towards transit stops

Urban Design

Urban design aspects play an important role in making the TOD communities pedestrian friendly and ensuring more active lifestyle

KEY COMPONENTS OF TOD

KEY COMPONENTS OF TOD

Compact Development

The scale of transit oriented development approximates the scale of the pedestrian. The extent of these neighborhoods is based on a comfortable walking distance from edge to centre (approximately 300 to 800 meters in radius)

Interconnected Streets

An interconnected street pattern is a traditional urban design technique that reduces congestion, encourages travel choice, and supports mixed use development

Parking

TOD is an opportunity to reduce parking in station reduced residential vehicle ownership etc. Setting both minimum and maximum parking standards can help ensure the success of a station area as well as optimize transit ridership

Safety & Security

Developing the pedestrian environment to maximize safety and security will enhance user's experience and transit ridership

KEY COMPONENTS OF TOD

BENEFITS OF TOD

Economic Benefits

- Contribute in affordable housing
- Increase transit ridership
- Encourages use of non-motorized transportation
- Creates compact, sustainable urban form
- Increases land values

Social Benefits

- Increase public safety
- Increases mobility choices
- Reduce Travel time
- Increases health benefits

Environmental Benefits

- Reduce energy consumption
- Reduce green house gas emission
- Preserve resource lands and open space
- Save land from Urban Sprawl

TRANSIT ORIENTED DEVELOPMENT

Key Learning

- Intensification of mix land use development along transit corridors
- Adequate accessibility for safe and sustainable transportation systems
- Traffic and pedestrian safety management
- Provision of less /no Parking
- Policies for retrofitting, redevelopment/infill and green field developments;
- TOD influence zones for areas within a certain radius of transit stations or stops;
- Detailed influence zone plans for creating pedestrian friendly environment, multimodal connectivity, modal shifts and high density development

Case Studies-TOD

CASE STUDY –HONG KONG

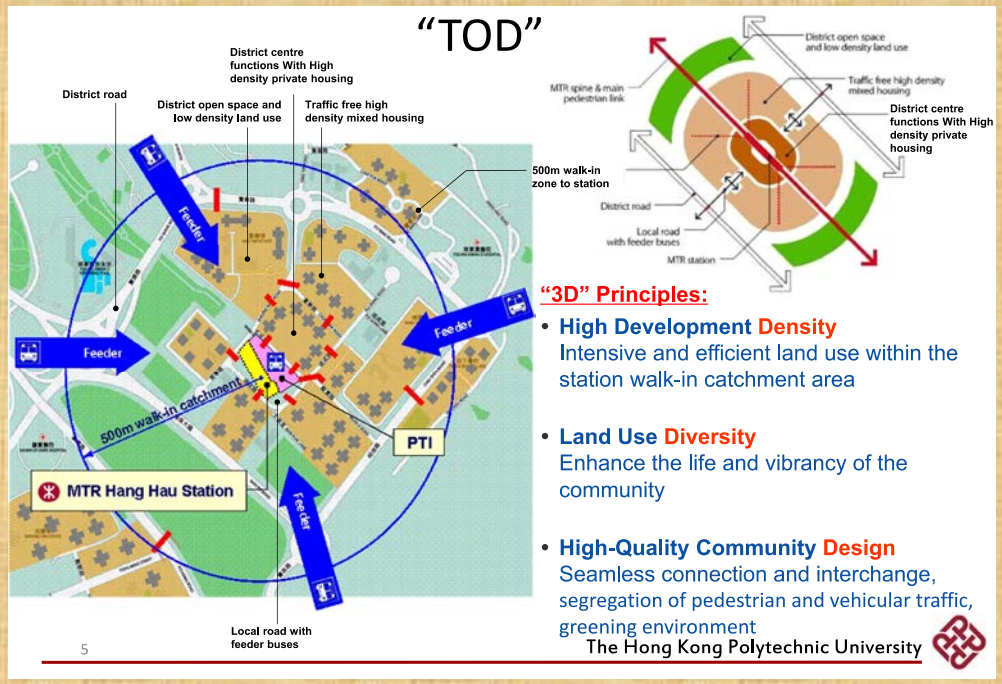
- Highly developed transportation network.
- Over **90% of daily travels** (11 million) are on **public transport**.
- Urban development generally follows a "Public Transport-Oriented Development" approach. Its unique characters in terms of dense population and limited size of land have shaped Hong Kong to be capable of adopting the concept of TOD.
- The Hong Kong 2030 Planning Vision and Strategy, an integrated approach to land-use, transport and environmental protection, was adopted, leading to a "**Preferred Development Option**" which highlighted the planning concepts of setting development axes along railways and allowing more intensive development around railway stations.

Hong Kong is a good example of a city where the transit authority is able to discuss/negotiate with the developers to facilitate direct access from high-impact developments to the transit station via underground/overhead walkways

CASE STUDY –HONG KONG

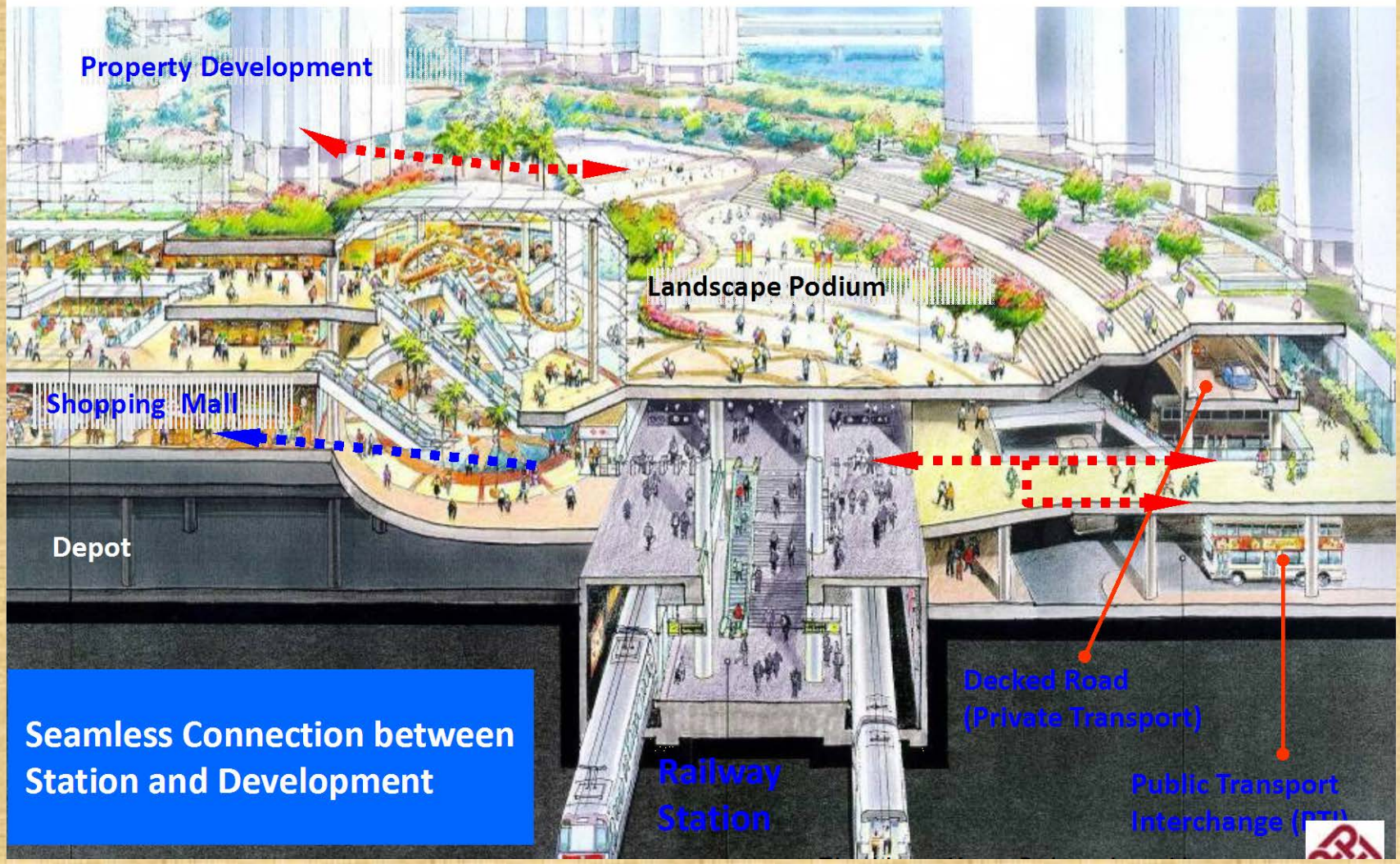
- Approximately 42% of the housing and employment population and 75% of the commercial and office floor areas are located within a radius of 500 meters of railway stations which demonstrates the integration of land use and transport planning and a compact and efficient urban development approach.

- The compact development have various residential housing choices within walking distance of a transit facility ranging from 0.4 to 0.8 km radius, or up to a 15 minute walk



INTEGRATED DESIGN

Rail + Property (R+P) Design Concept



Seamless Connection between Station and Development

Sustainable transportation Strategy

1. Better integration of transport and land use planning
2. Better use of railways as the back-bone of transport system
3. Better public transport services and facilities
4. Better use of advanced technologies in transport management
5. Better environmental protection

Hong Kong: Success Factors

- Key Success Factor: Railway (Metro) plus Property Development Financing Model
- Property Sales and Rental Profits cover a major part of capital investments of the Metro lines
- Fare income covers the operating costs
- Competitive tender of property packages to developers
- MTR (Metro operator) contributes property rights, oversees design and construction
- Developers pay land premium & development costs

DELHI

Application of TOD Influence Zone

Zone 1: Intense TOD Zone	Zone 2: Standard TOD Zone	Zone 3: TOD Transition Zone
• **300 M** influence zone of all MRTS Stations • **800m* (10-min walking)** influence zone of Regional Interchange Station (i.e. Rail -MRTS, or two MRTS lines.)	**800m* (10-min walking)** influence zone of all MRTS Stations.	**2000m** (10-minute cycling distance)** influence zone of all MRTS Stations.

*Walking speed is considered approx. 5 km/hour.
**Cycling speed is considered approx. 12 km/hour.

Norms:

At least 30% residential and 20% Commercial & Institutional use (min. 5% commercial and min. 5% institutional use) of FAR is mandatory in every new/ redevelopment project within the Influence Zone.

i. New/ Redevelopment projects with more than 1.5 FAR of Commercial use shall be permitted/ located only within the 300 m walking distance from the MRTS station (Intense TOD zone).

ii. At least 50% of total street frontage length of any TOD project should have an active frontage, i.e. a mix of at least two types of uses with different peak hours of activity stacked vertically, to provide round-the-clock ‘eyes on the street’.

Cont…

DELHI

Permissible FAR and Density*		
Gross FAR (site)	Minimum permissible density (with ±10% variation)	
	Residential dominated project	Predominantly non-residential
	(Residential FAR ≥ 50%)	(Residential FAR ≤ 30%)
Below 1.0	Under-utilization of FAR (not permitted)	Under-utilization of FAR (not permitted)
1.1 - 2.0	200- 400 du/ha	100 - 200 du/ha
upto 3.0	400 - 600 du/ha	250 - 400 du/ha
3.1 - 4.0	600 - 800 du/ha	400 - 600 du/ha
* Site level FAR shall be based on Approved TOD Influence Zone Plan.		

Minimum Ground Coverage.

The minimum Ground Coverage requirement for all plots, blocks and projects within TOD influence zones is 50%. In developed areas, this norm would apply to redevelopment or infill development projects only.

DELHI

Non-Permissible Uses for all new projects within TOD Intense

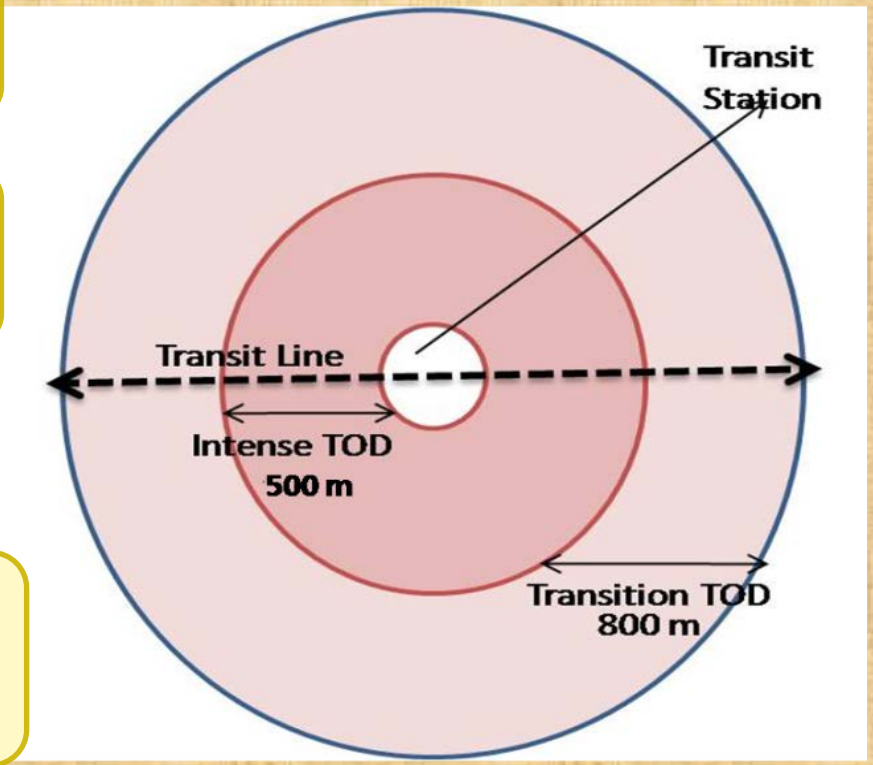
- Car-sales showrooms
- Banquet halls
- Automobile-repair/ services/ vehicular servicing shops
- LPG Godowns
- Electric Substation 220 KV (Check Buffer requirement/ restriction)
- Bus Depot (permitted only if clubbed with terminal & in form of mixed-use development site
- Cremation ground
- Stand-alone Multi Level Parking without on-site mixed use.
- Open ground parking lot (if provided shall be counted as FAR consumption)
- Any trade or activity involving any kind of obnoxious, hazardous, inflammable, non-compatible and polluting substance or process shall not be permitted.

Haryana TOD Policy

HARYANA TOD POLICY

Haryana TOD policy

1st notified	• Sep. 5th, 2014
Amended	• Feb. 9th, 2016 and 23rd Nov 2016

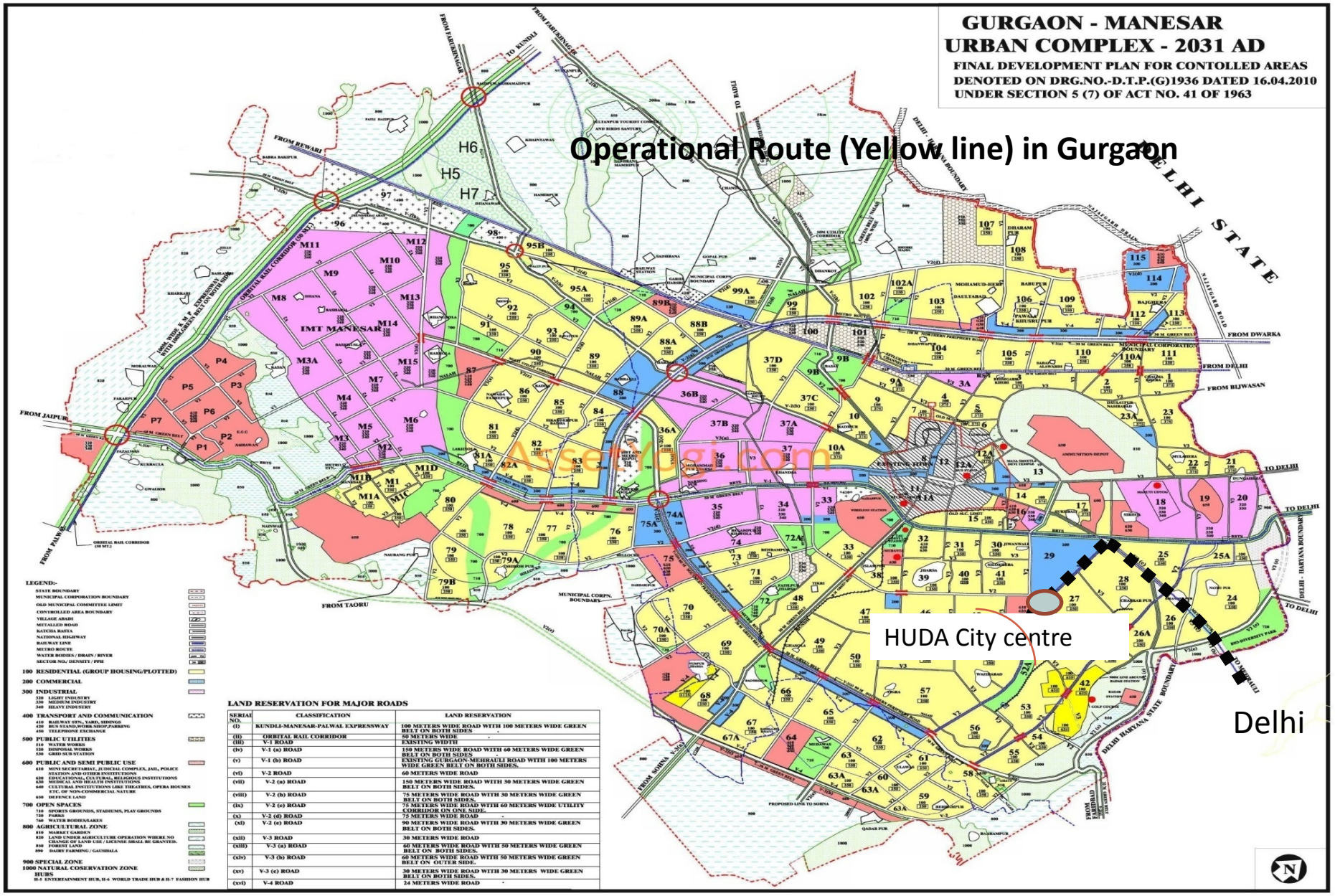


TOD Zones

Intense TOD Zone	• First 500 mtr
Transition TOD Zone	• Between 500 to 800 mtr

METRO ROUTES (WITHIN HARYANA TERRITORY)

Sr. No.	Metro Corridors	Remarks
1	Delhi Metro extension (popularly known Yellow Line) along Gurgaon- Mehrauli road upto Sector -29 (HUDA City Centre),**Gurgaon.** There are 5 stations in Gurgaon. First is Dronacharya.	Operational
2	Rapid Metro developed in PPP mode by DLF Ltd in collaboration with HUDA in **Gurgaon.** This metro connects Yellow line at Sikandarpur Station	Operational
3	Metro Link along Northern Periphery Road as proposed in the Final Development Plan 2031 AD of **Gurgaon**-Manesar Urban Complex.	In-principle approved by the Govt.
4	**Metro Link along Southern Periphery Road as proposed in the Final Development Plan 2031 AD of Gurgaon- Manesar Urban Complex**	**In-principle approved by the Govt.**
5	Metro Link from Badarpur (Delhi) to Ballabgarh, District **Faridabad.**	Operational upto YMCA Chowk Faridabad
6	Metro Link from Mundka (Delhi) to City Park, **Bahadurgah**, District Jhajjar	Work in progress



Master Plan -Gurgaon Manesar Urban Complex – 2031 AD

PLANNING PARAMETERS

Purpose	TOD Zone	Maximum Ground Coverage	FAR	Population Densities
Group Housing	Intense	40 Percent (50)	3.5	600 (±10 percent)
	Transition	40 Percent (50)	2.5	430 (±10 percent)
Integrated Commercial /mix land use	Intense	40 Percent (50)	3.5	-
	Transition	40 Percent (50)	2.5	-
IT /ITES	Intense	40 Percent (50)	3.5	-
	Transition	40 Percent (50)	2.5	-

Parking Norms

Up to 100 sq m Carpet area dwelling unit	0.5 ECS
100-150 M	1.0 ECS
More than 150 M	15 ECS
COMMERCIAL AREA @50 M	1.0 ECS

APPLICABLE NORMS

- In approved projects where the 75% of the permissible ground coverage has already been utilized, the benefit of FAR of 3.5 or 2.5 shall be allowed to be availed, even if demolition of only part ground coverage is sufficient to avail the benefit of additional FAR.
- **Additional FAR:** Existing or under construction developments, where no third party rights have been created, may be allowed as per norms of ground coverage, green area etc.
- Minimum density norms would not be made applicable in such cases.
- Certified structural stability of the existing and proposed constructions by a qualified structure Engineer having experience more than 10 years

APPLICABLE NORMS

- The land owners of plots in a compact block of plotted colony having an area of 0.5 acre and abutting 18 mtrs/24 mtrs wide roads may be permitted to convert into group housing colony for re-densification purposes.
- Provisions of this notification will also be allowed to be availed in those projects where group housing is a part of any plotted colony.
- Subsequent to these amendments, building plans shall be sanctioned with higher FAR as per provisions of this policy.

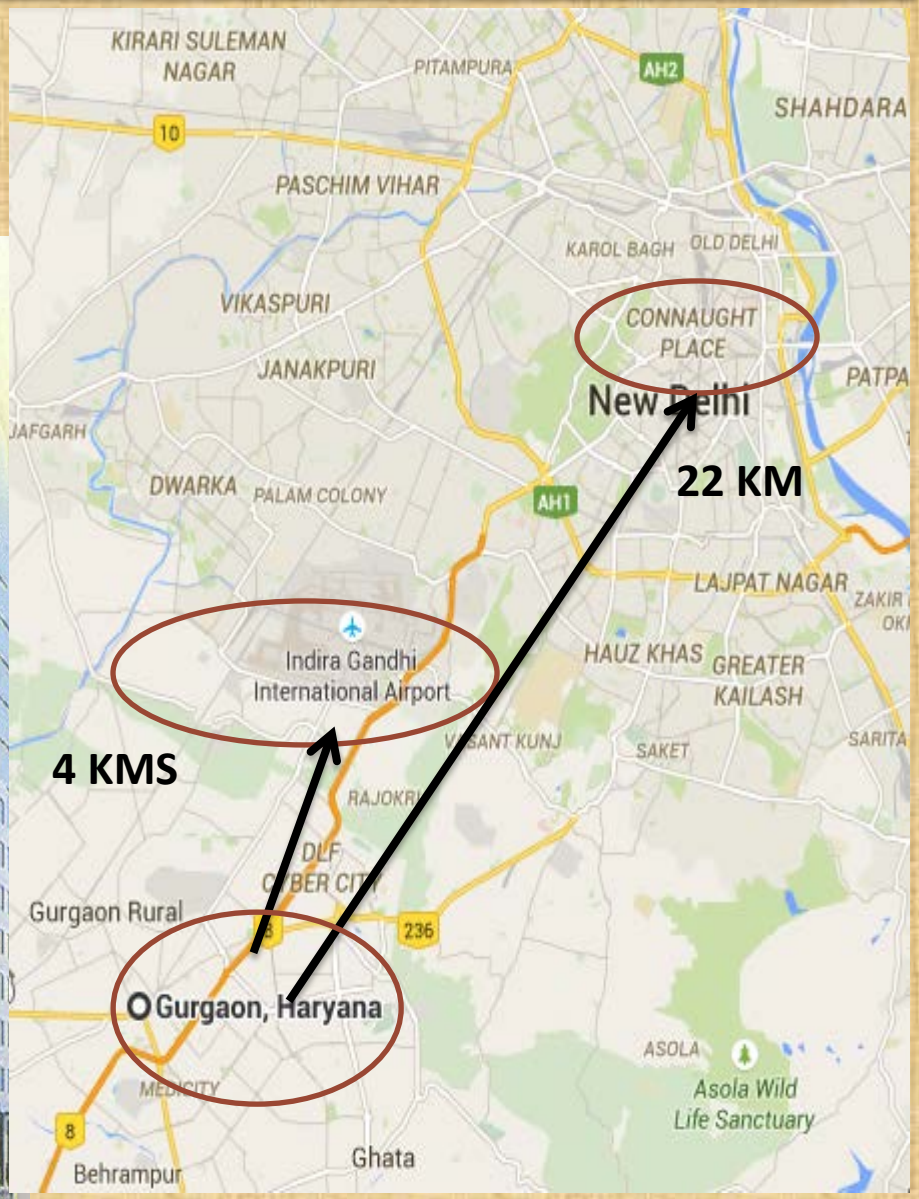
APPLICABLE NORMS

- Applicant shall submit a detailed technical proposal.
- The Director of TCP, after satisfying himself with regard to the suitability of the above proposal/amendments shall recommend to the Government for sanction of the proposed FAR and density.
- In case of Greenfield Metro Projects like on SPR and NPR etc., the existing licensees need to get the permission within a period of six months from the date from which the proposed policy is made applicable.
- Thereafter, they would have to deposit 15% extra “Infrastructure Augmentation Charges” for every six months delay.

Case study : Gurgaon

CITY PROFILE- GURGAON

LOCATION OF GURGAON AND DISTANCES FROM IMPORTANT PLACES



CITY PROFILE- GURGAON

Strategic location

- Satellite town located **south of Delhi**
- falling in **National Capital Region**
- Latitude 28°27’55” N Longitude 77° 01’00” E

Connectivity

- Close proximity (Appx. 4 Kms) **to IGI Airport**
- Delhi through **NH8 expressway**, MG Road
- **Delhi Metro** corridor
- 100m wide Kundli Manesar -Palwal **(KMP) Expressway**

Population

- Existing 15.5 lacs & envisaged 42.5 Lacs in GMUC 2031.
- Higher percentage of working population with **thousands of expats.**

CITY PROFILE- GURGAON

Third rgest city of Haryana State with the **highest per capita income**

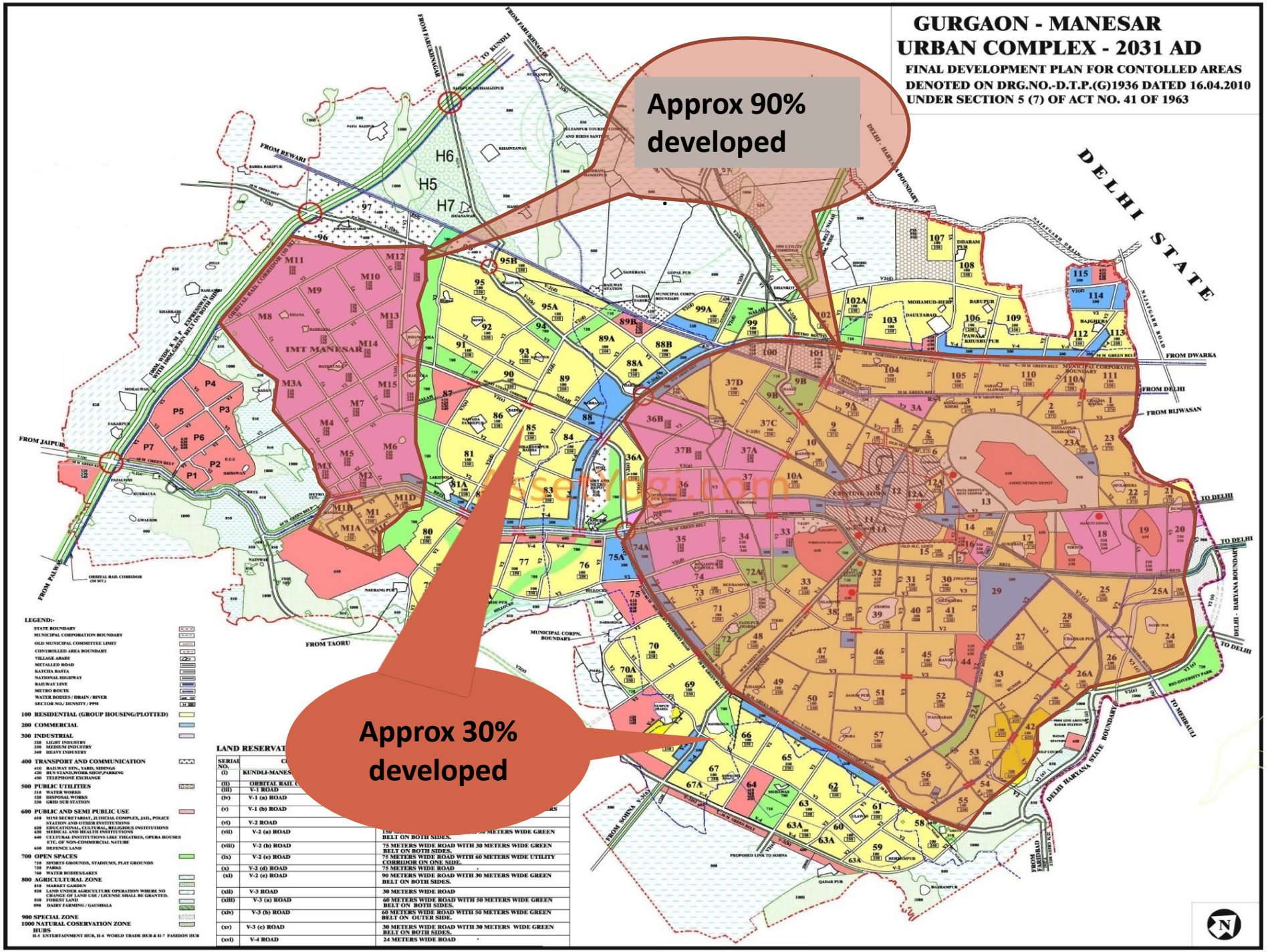
More than **50% of fortune 500 companies** have main/branch office in Gurgaon

Cyber city developed on aprox. 100 acres is an IT Hub of State.

More than 1100 high rise buildings & over 50 shopping mall

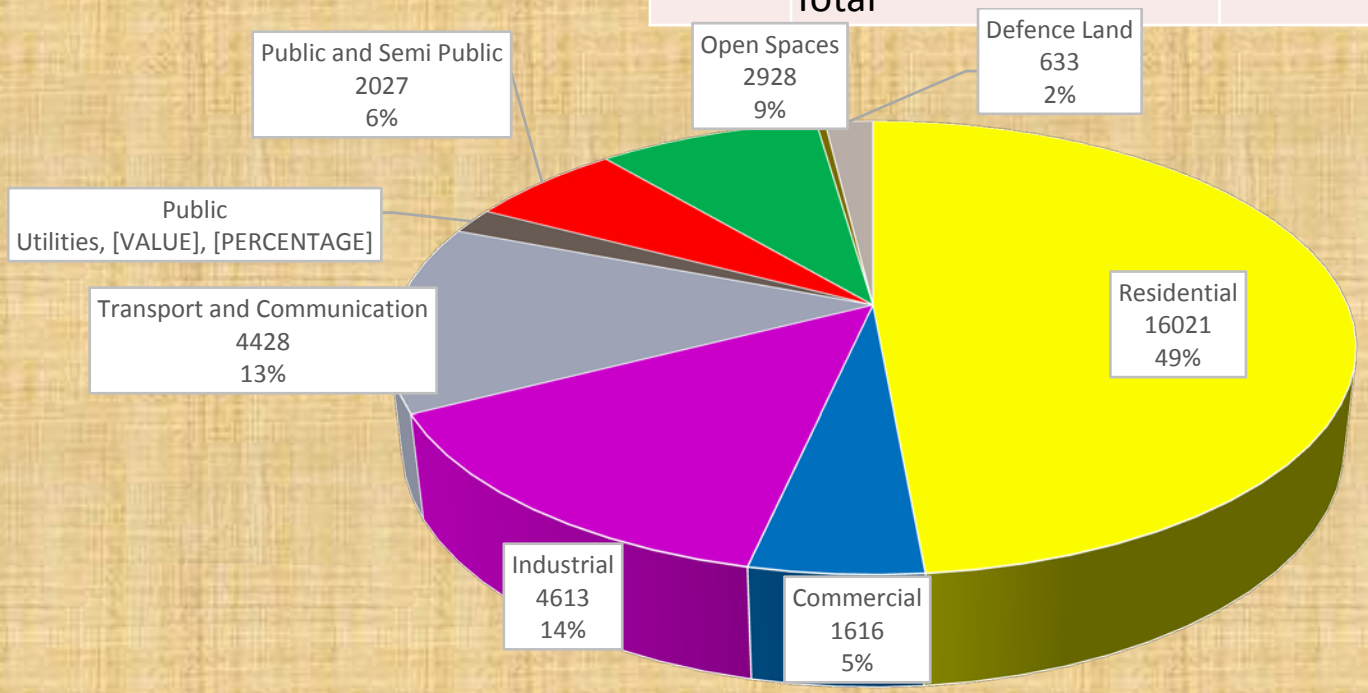
As per IMP of Gurgaon (2010), city is expecting to generate a total employment of about 50 lakhs.

City has **expanded about 300% during the past decade** to more than 1.5 million people, larger than most American cities


GURGAON - MANESAR
URBAN COMPLEX - 2031 AD
FINAL DEVELOPMENT PLAN FOR CONTOLLED AREAS
DENOTED ON DRG.NO.-D.T.P.(G)1936 DATED 16.04.2010
UNDER SECTION 5 (7) OF ACT NO. 41 OF 1963
Approx 90% developed
Approx 30% developed
DELHI STATE
IMT MANESAR
LEGEND:-
STATE BOUNDARY
MUNICIPAL CORPORATION BOUNDARY
OLD MUNICIPAL COMMITTEE LIMIT
CONTROLLED AREA BOUNDARY
VILLAGE ABADI
METALLED ROAD
KATCHA RASTA
NATIONAL HIGHWAY
RAILWAY LINE
METRO ROUTE
WATER BODIES / DRAIN / RIVER
SECTOR NO./ DENSITY / PPH
100 RESIDENTIAL (GROUP HOUSING/PLOTTED)
200 COMMERCIAL
300 INDUSTRIAL
320 LIGHT INDUSTRY
330 MEDIUM INDUSTRY
340 HEAVY INDUSTRY
400 TRANSPORT AND COMMUNICATION
410 RAILWAY STN., YARD, SIDINGS
420 BUS STAND,WORK SHOP,PARKING
450 TELEPHONE EXCHANGE
500 PUBLIC UTILITIES
510 WATER WORKS
520 DISPOSAL WORKS
530 GRID SUB STATION
600 PUBLIC AND SEMI PUBLIC USE
610 MINI SECRETARIAT, JUDICIAL COMPLEX, JAIL, POLICE STATION AND OTHER INSTITUTIONS
620 EDUCATIONAL, CULTURAL, RELIGIOUS INSTITUTIONS
630 MEDICAL AND HEALTH INSTITUTIONS
640 CULTURAL INSTITUTIONS LIKE THEATRES, OPERA HOUSES ETC. OF NON-COMMERCIAL NATURE
650 DEFENCE LAND
700 OPEN SPACES
710 SPORTS GROUNDS, STADIUMS, PLAY GROUNDS
720 PARKS
760 WATER BODIES/LAKES
800 AGRICULTURAL ZONE
810 MARKET GARDEN
820 LAND UNDER AGRICULTURE OPERATION WHERE NO CHANGE OF LAND USE / LICENSE SHALL BE GRANTED.
850 FORENT LAND
890 DAIRY FARMING / GAUSHALA
900 SPECIAL ZONE
1000 NATURAL COSERVATION ZONE
HUBS
H-5 ENTERTAINMENT HUB, H-6 WORLD TRADE HUB & H-7 FASHION HUB
LAND RESERVAT
SERIAL NO.
(i) KUNDLI-MANES
(ii) ORBITAL RAIL C
(iii) V-1 ROAD
(iv) V-1 (a) ROAD
(v) V-1 (b) ROAD
(vi) V-2 ROAD
(vii) V-2 (a) ROAD
(viii) V-2 (b) ROAD
(ix) V-2 (c) ROAD
(x) V-2 (d) ROAD
(xi) V-2 (e) ROAD
(xii) V-3 ROAD
(xiii) V-3 (a) ROAD
(xiv) V-3 (b) ROAD
(xv) V-3 (c) ROAD
(xvi) V-4 ROAD
BELT ON BOTH SIDES.
75 METERS WIDE ROAD WITH 30 METERS WIDE GREEN BELT ON BOTH SIDES.
75 METERS WIDE ROAD WITH 60 METERS WIDE UTILITY CORRIDOR ON ONE SIDE.
75 METERS WIDE ROAD
90 METERS WIDE ROAD WITH 30 METERS WIDE GREEN BELT ON BOTH SIDES.
30 METERS WIDE ROAD
60 METERS WIDE ROAD WITH 50 METERS WIDE GREEN BELT ON BOTH SIDES.
60 METERS WIDE ROAD WITH 50 METERS WIDE GREEN BELT ON OUTER SIDE.
30 METERS WIDE ROAD WITH 30 METERS WIDE GREEN BELT ON BOTH SIDES.
24 METERS WIDE ROAD
FROM DWARKA
FROM DELHI
FROM BIJWASAN
TO DELHI
FROM JAIPUR
FROM PALWAL
FROM TAORU
FROM REWARI
FROM FARIDABAD
TO KUNDLI
FROM SOHNA
TO MEHRAULI
DELHI HARYANA STATE BOUNDARY

PROPOSED LAND USE 2031

Sr No.	Land Use	Area (in hectare)	In %
1	Residential	16021	48.57
2	Commercial	1616	4.90
3	Industrial	4613	13.98
4	Transport and Comm.	4428	13.42
5	Public Utilities	608	1.84
6	Public and Semi Public	2027	6.14
7	Open Spaces	2928	8.88
8	Special Zone	114	0.35
9	Defence Land	633	1.92
	Total	**32988**	100.00



Status of Transport

On an average **250 vehicles** are getting registered **daily**, in which two wheelers and cars constitute about two- third;

During past four years, vehicle registration has marked a **growth rate** more than **20% per annum**;

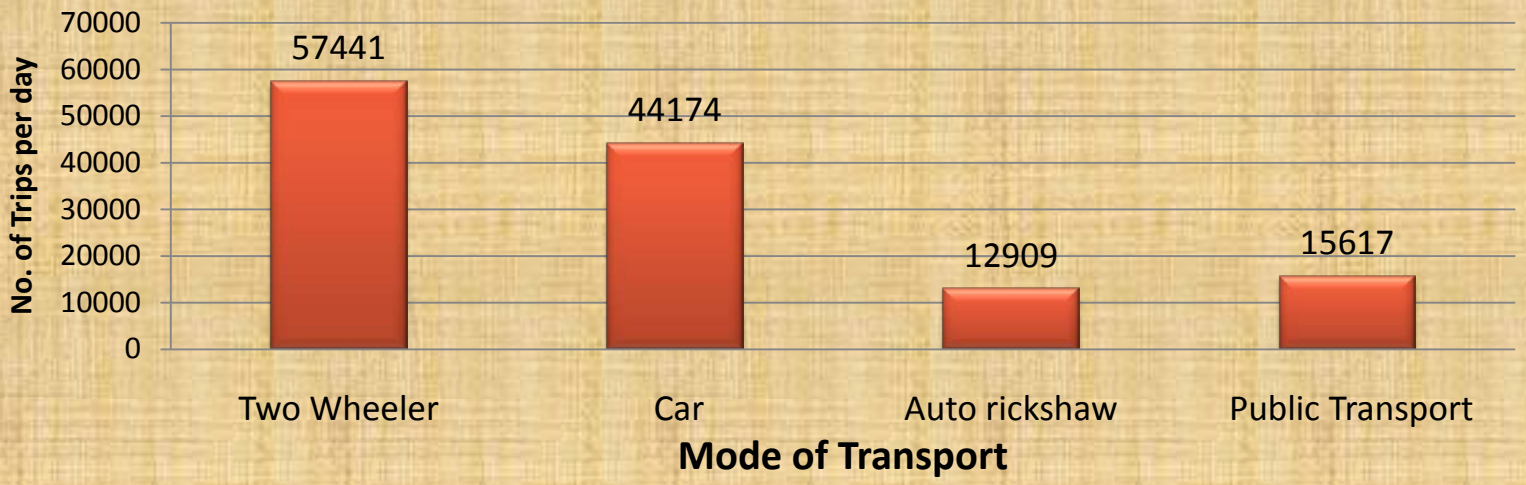
Particularly personal modes have registered a very high growth rate, **cars** are growing at the **rate of 30%**, while **two wheelers at 22%;**

Due to the absence of public transport in Gurgaon, **Intermediate Public Transport modes** are **adding** more in the vehicle population.

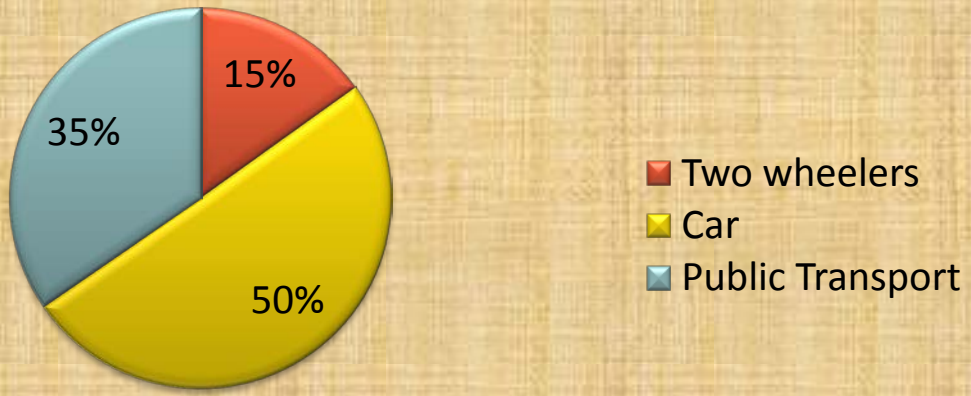
SOURCE: IMP, GURGAON (2010)

TRAFFIC CHARACTERISTICS

Peak hour movement



Delhi – Gurgaon movement (Peak Hours)



SOURCE: IMP, GURGAON (2010)

PUBLIC TRANSPORT

Presently served mainly by intermediate public transport like mini buses and shared Auto.

The requirement of mass transport system has been tested with the transport demand for 2011, 2021 and 2031.

It is expected that the Passenger Per Hour Per Direction (PPHPD) in the transit network, along many of the major corridors, would be more than 10000 PPHPD

Source: IMP Gurgaon, 2010

2031 Transport Indicators Gurgaon



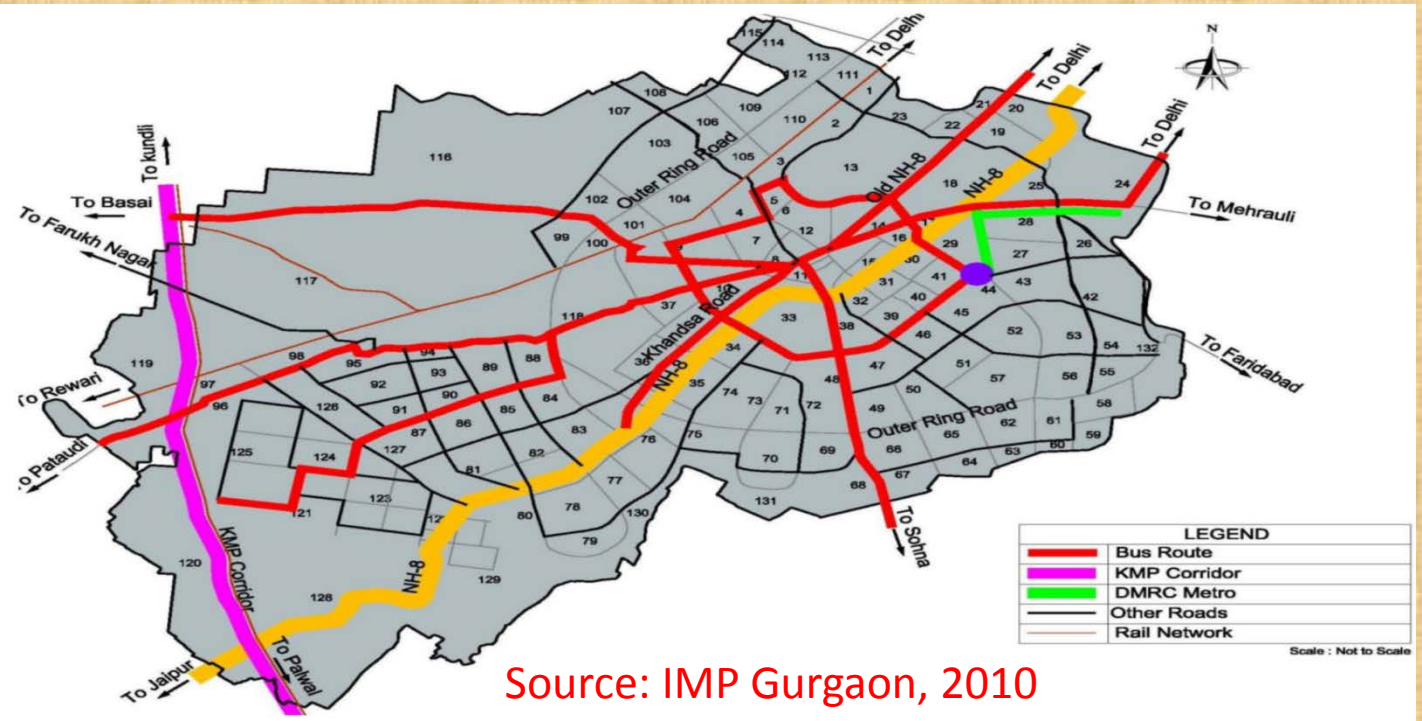


Indicators	Do Nothing	Benchmark
Average Journey Speed	11 Kmph	30 kmph
Public Transit Share (motorised)	4%	70%
Walkability (Footpath Length / Road Length	5-10%	100%
Cyclability (Cycle path Length / Road Length	0%	30-50%
Fatality Index (Fatalities/ Lakh Population)	20+	Reduce by 50%
On- Street Parking Index	30-50%	0-5%
Non-Motorized Travel Index	15-20%	30-50%
Emissions/hr (per square km)	5 kg	Reduce by 50%

Source: IMP Gurgaon, 2010

STATUS OF PUBLIC TRANSPORT

1. No organised bus services at present.
2. Bus augmentation alone will not be able to cater to the increased public transit load. The strategy for Public Transport improvement hence will be:
   - Introduction of an organised bus transport immediately.
   - Higher Order Mass Transit System in the future

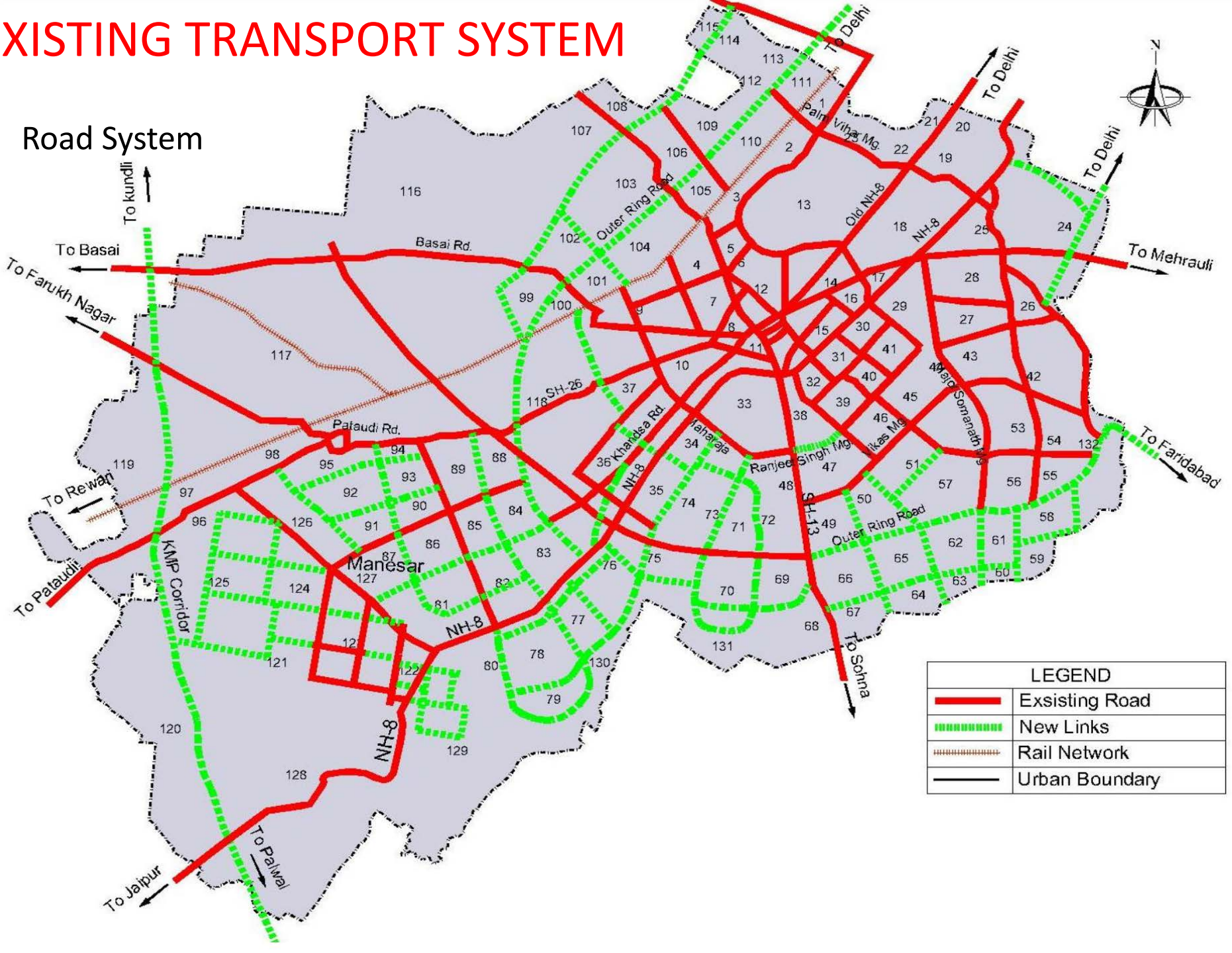


Source: IMP Gurgaon, 2010

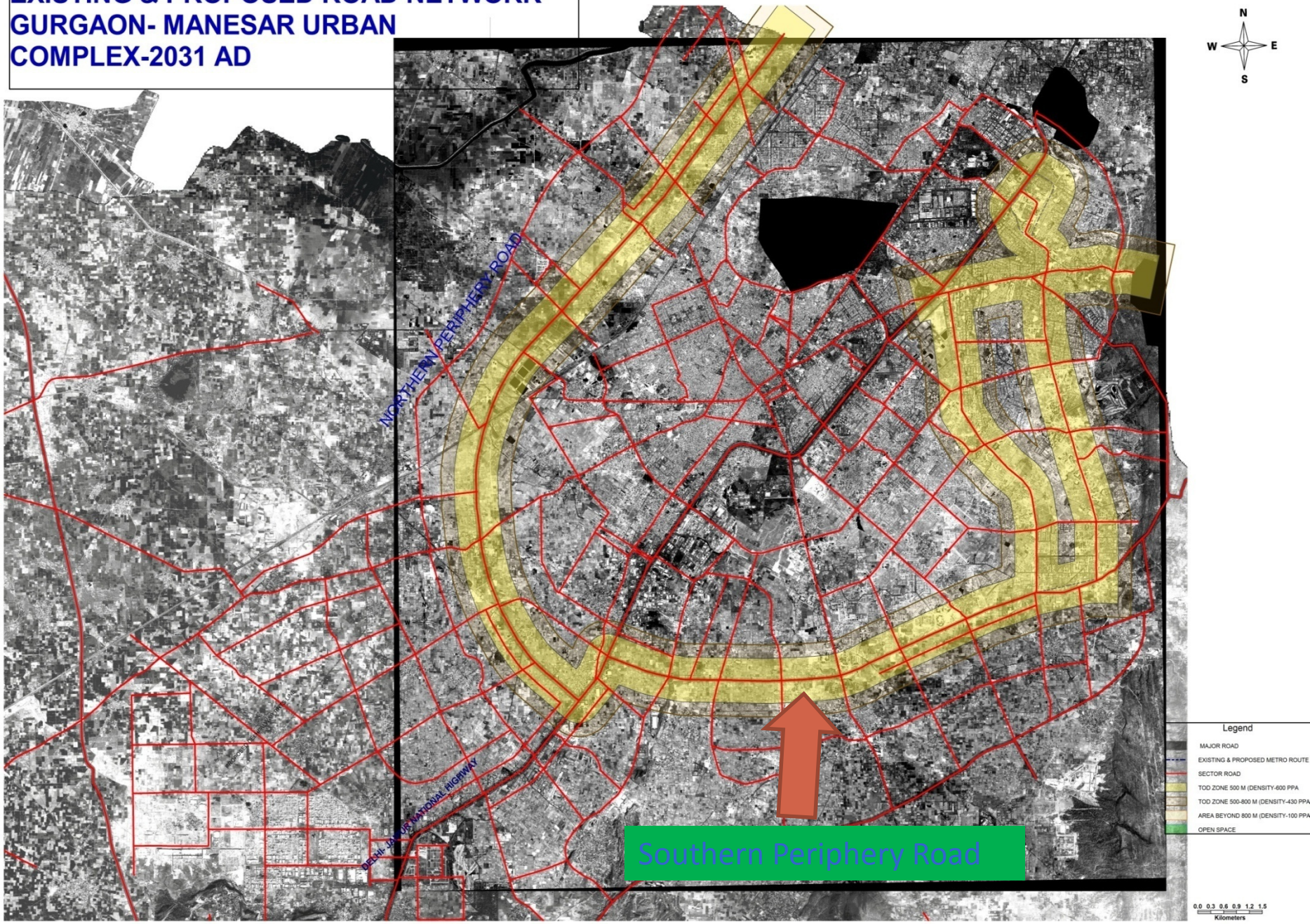
Corridor Level Plan For Southern Periphery Road (SPR)

EXISTING TRANSPORT SYSTEM

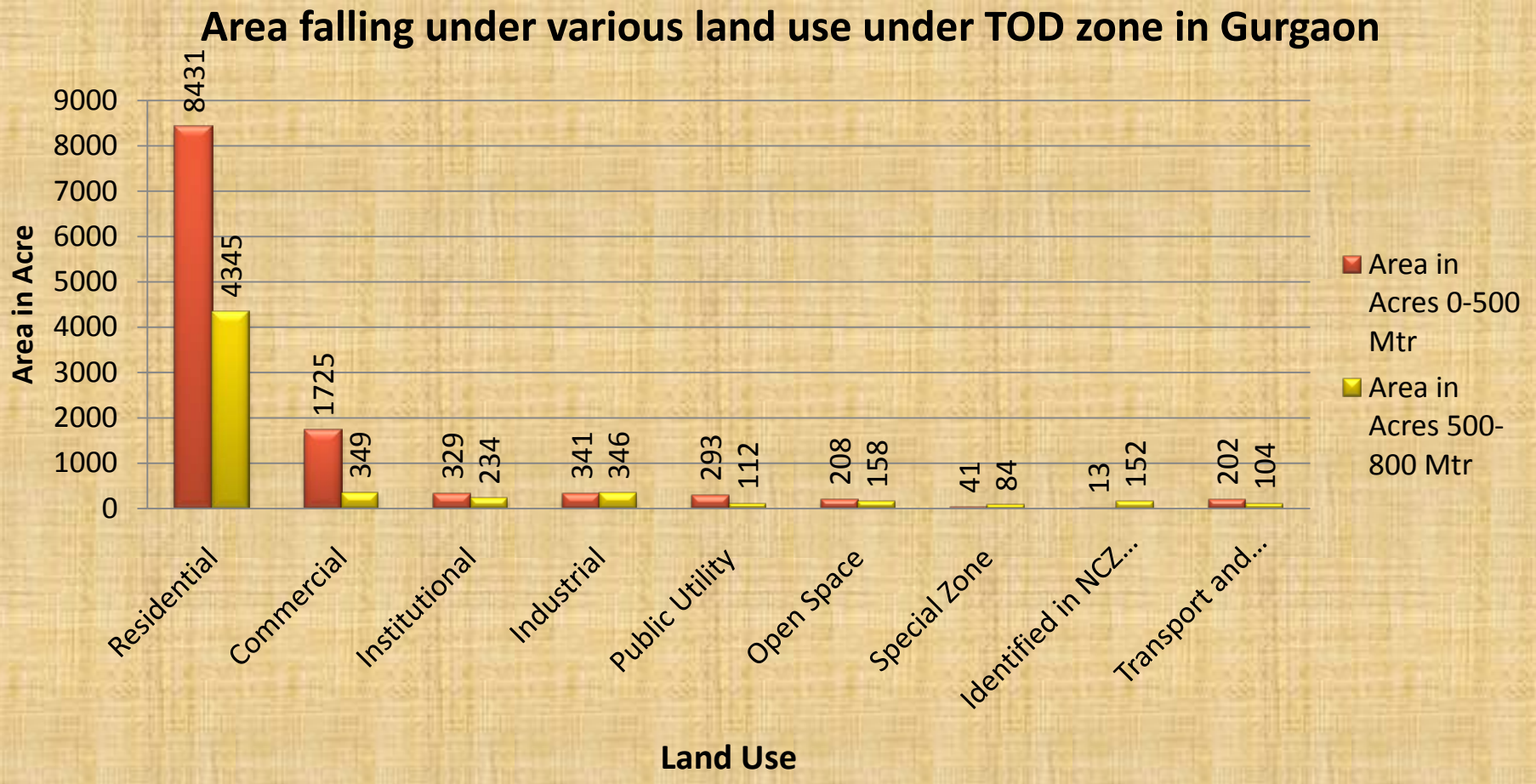
1. Road System



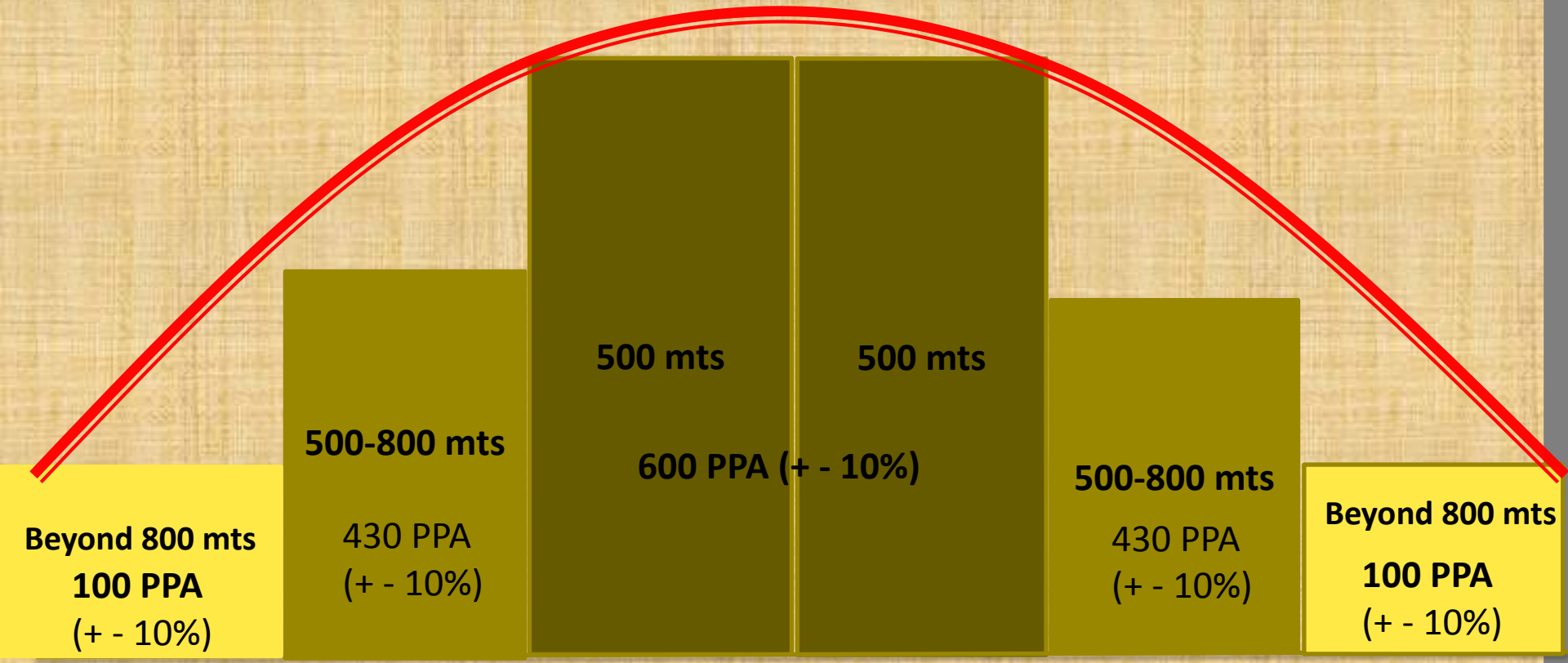
EXISTING & PROPOSED ROAD NETWORK GURGAON- MANESAR URBAN COMPLEX-2031 AD



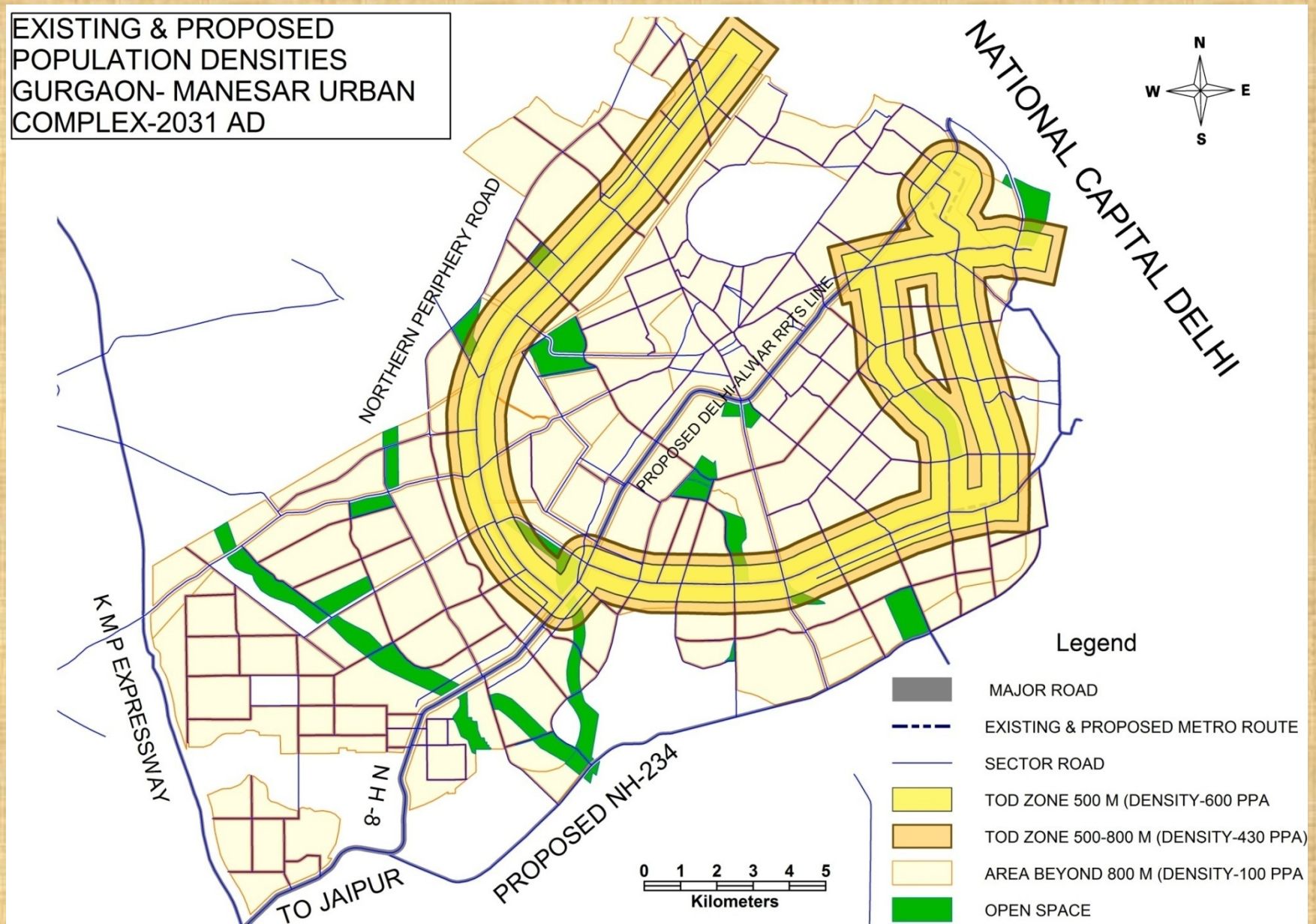
AREA UNDER TOD ZONE IN GURGAON



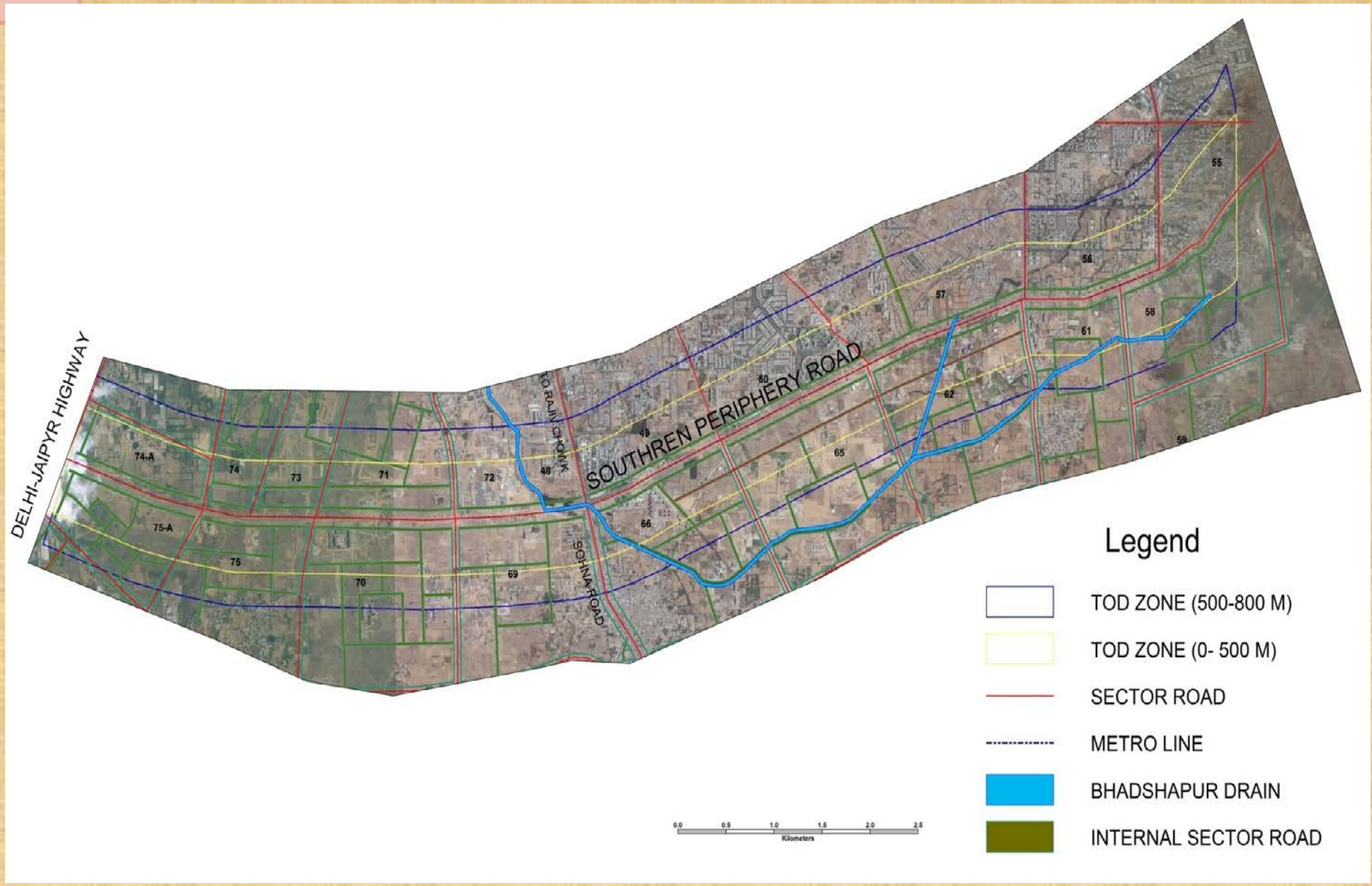
PROPOSED POPULATION DENSITIES AS PER TOD ZONE



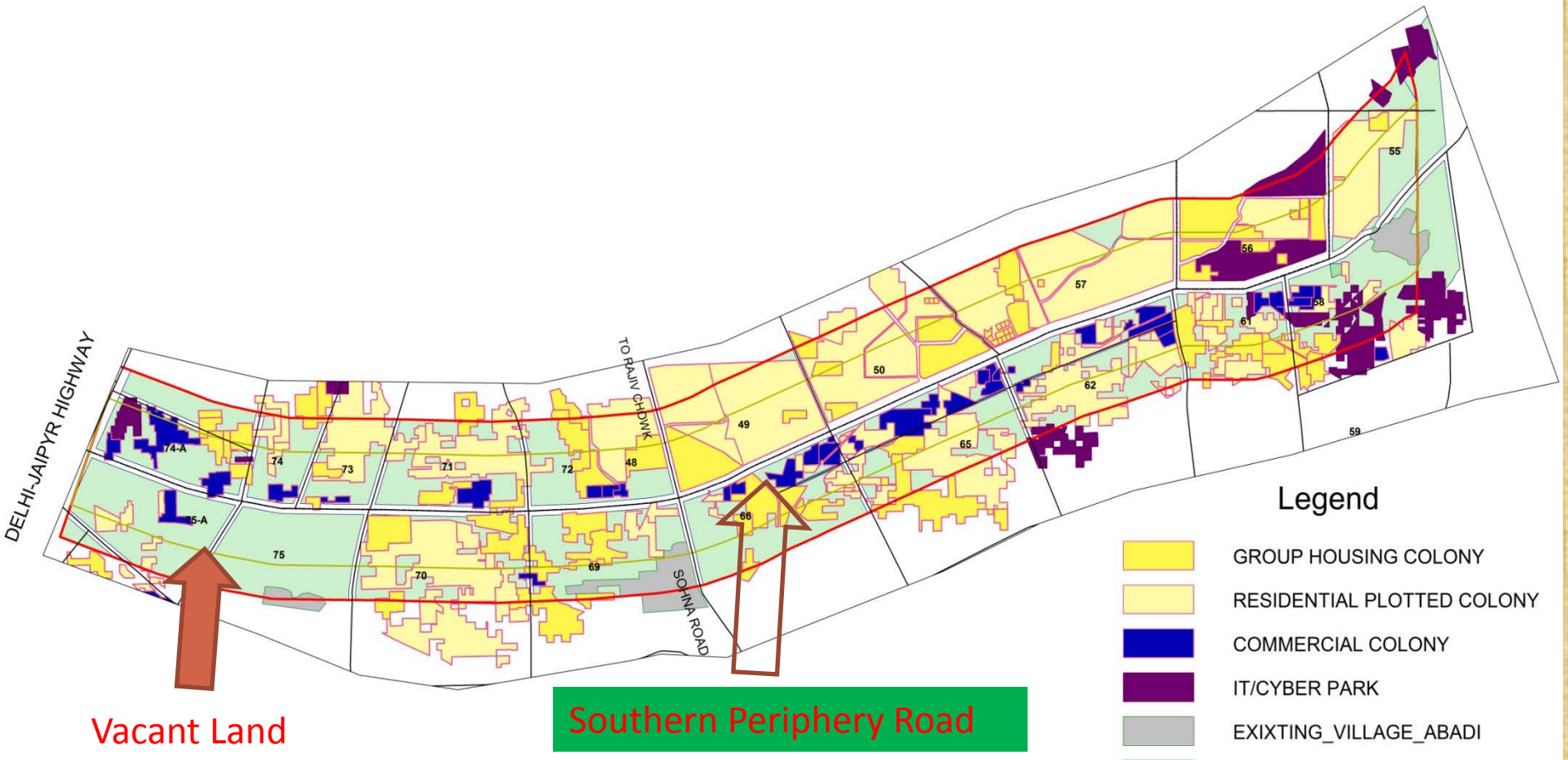
EXISTING AND PROPOSED POPULATION DENSITIES GMUC-2031



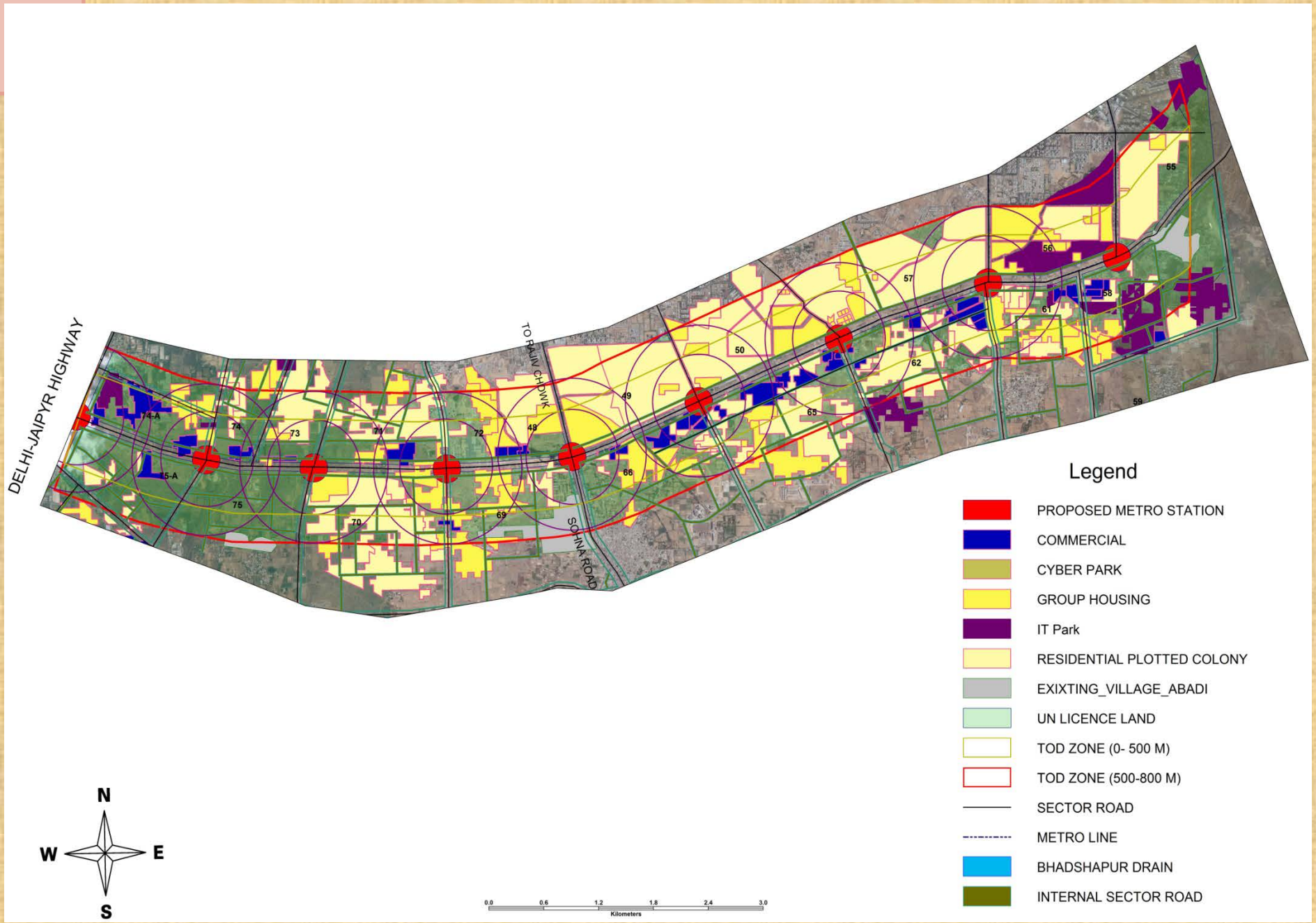
SOUTHERN PERIPHERY ROAD-TOD CORRIDOR



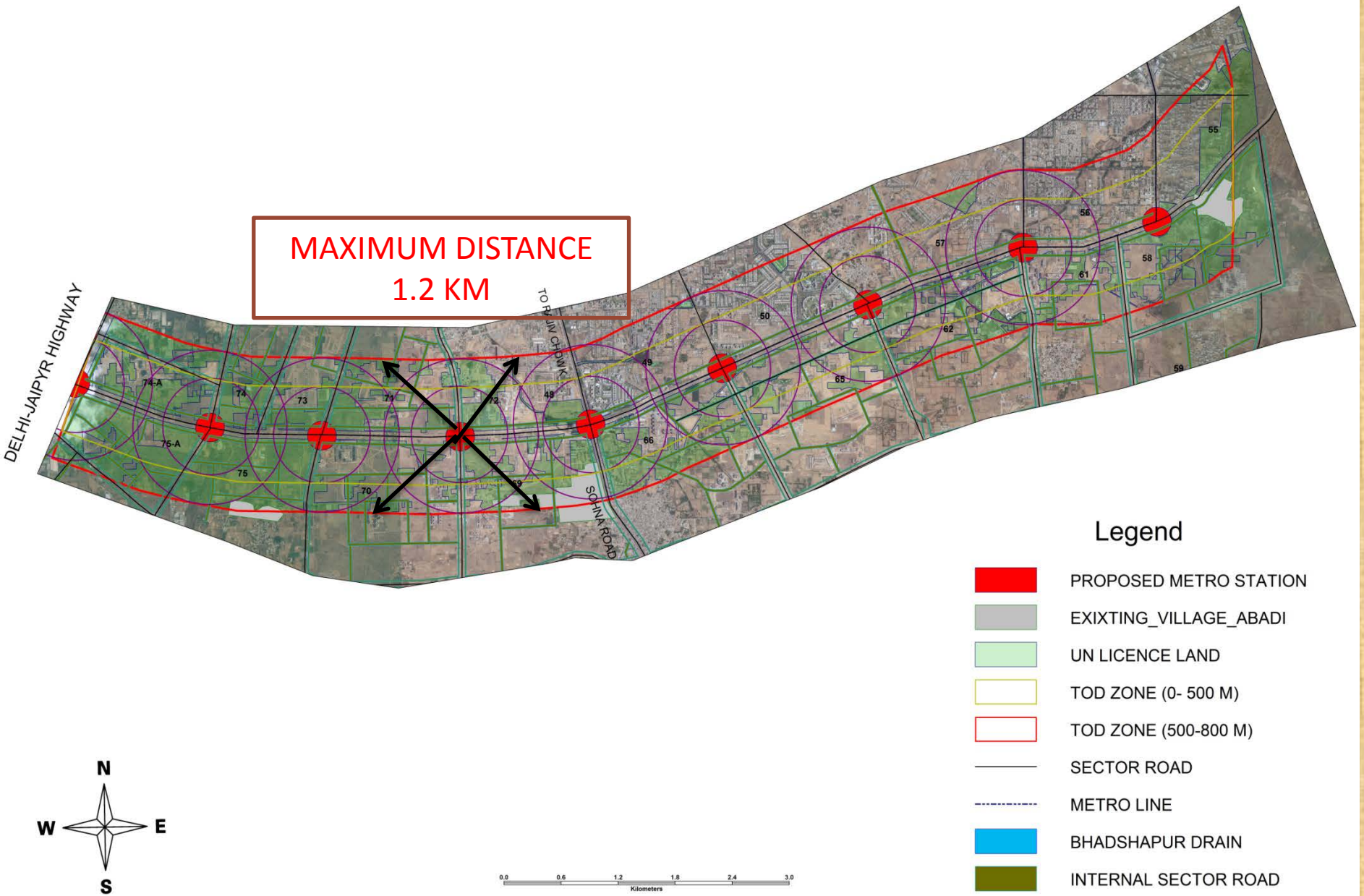
EXISTING LAND USE PLAN



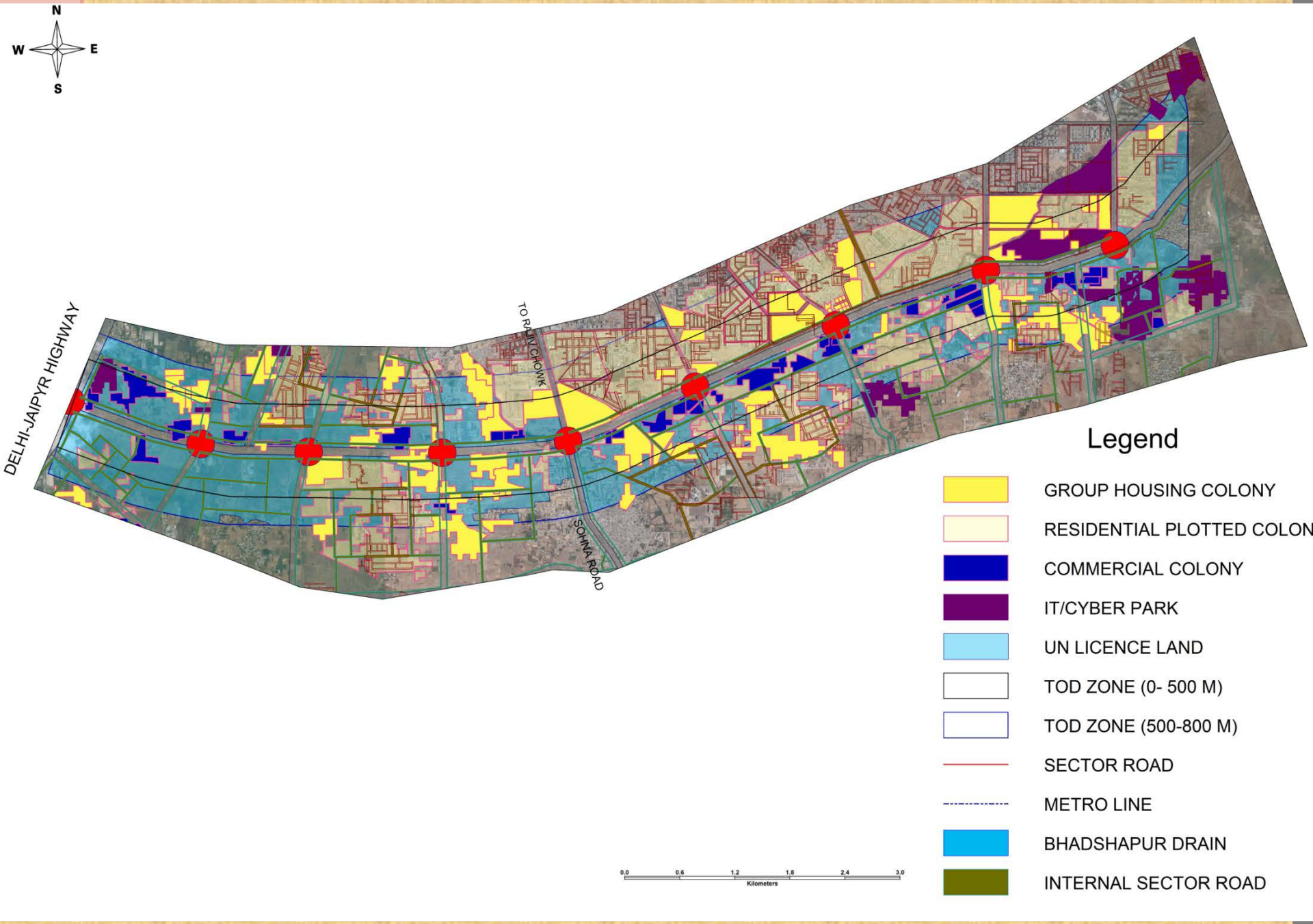
Proposed Metro Station on SPR Corridor



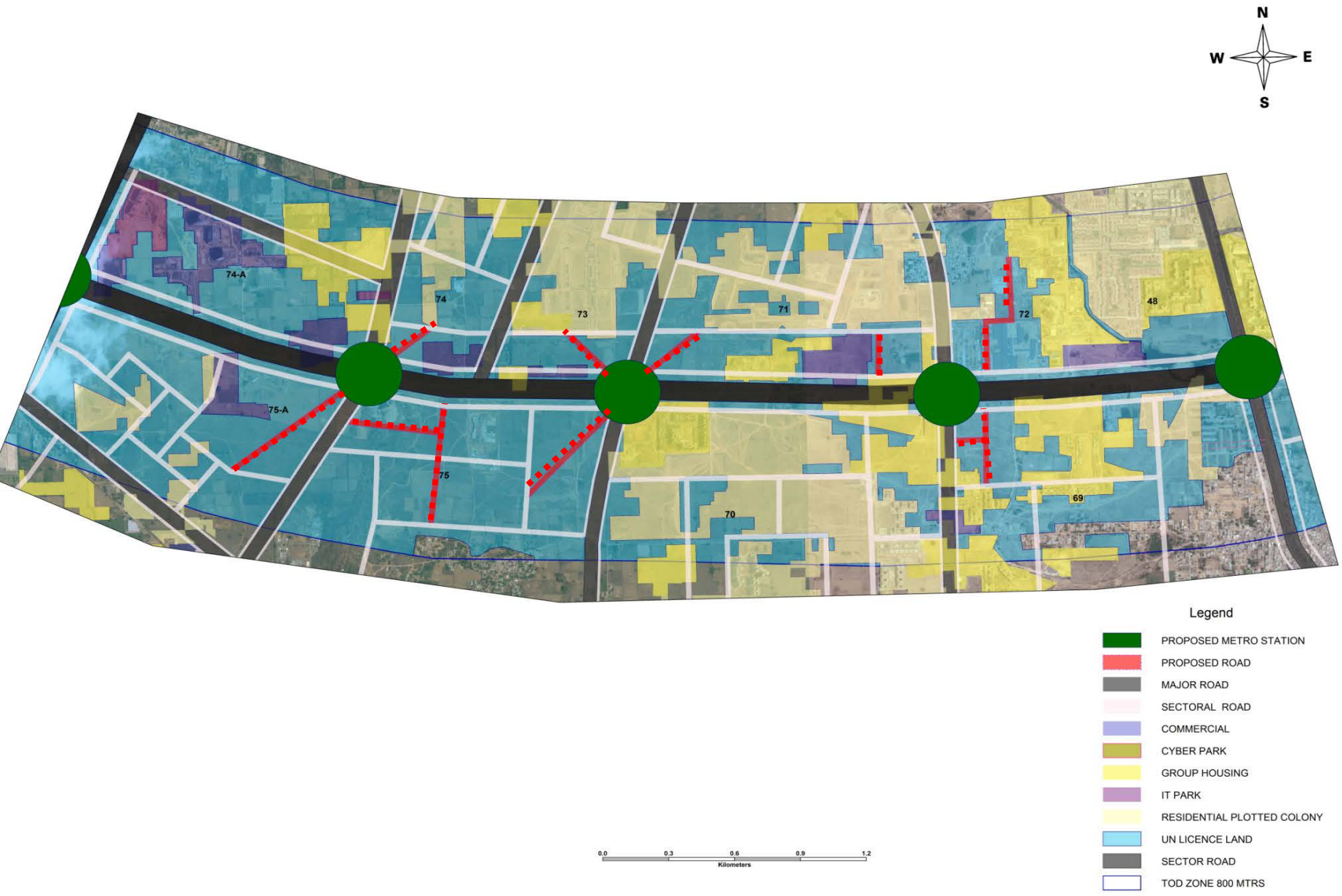
Proposed Metro Station on SPR Corridor On Satellite Image

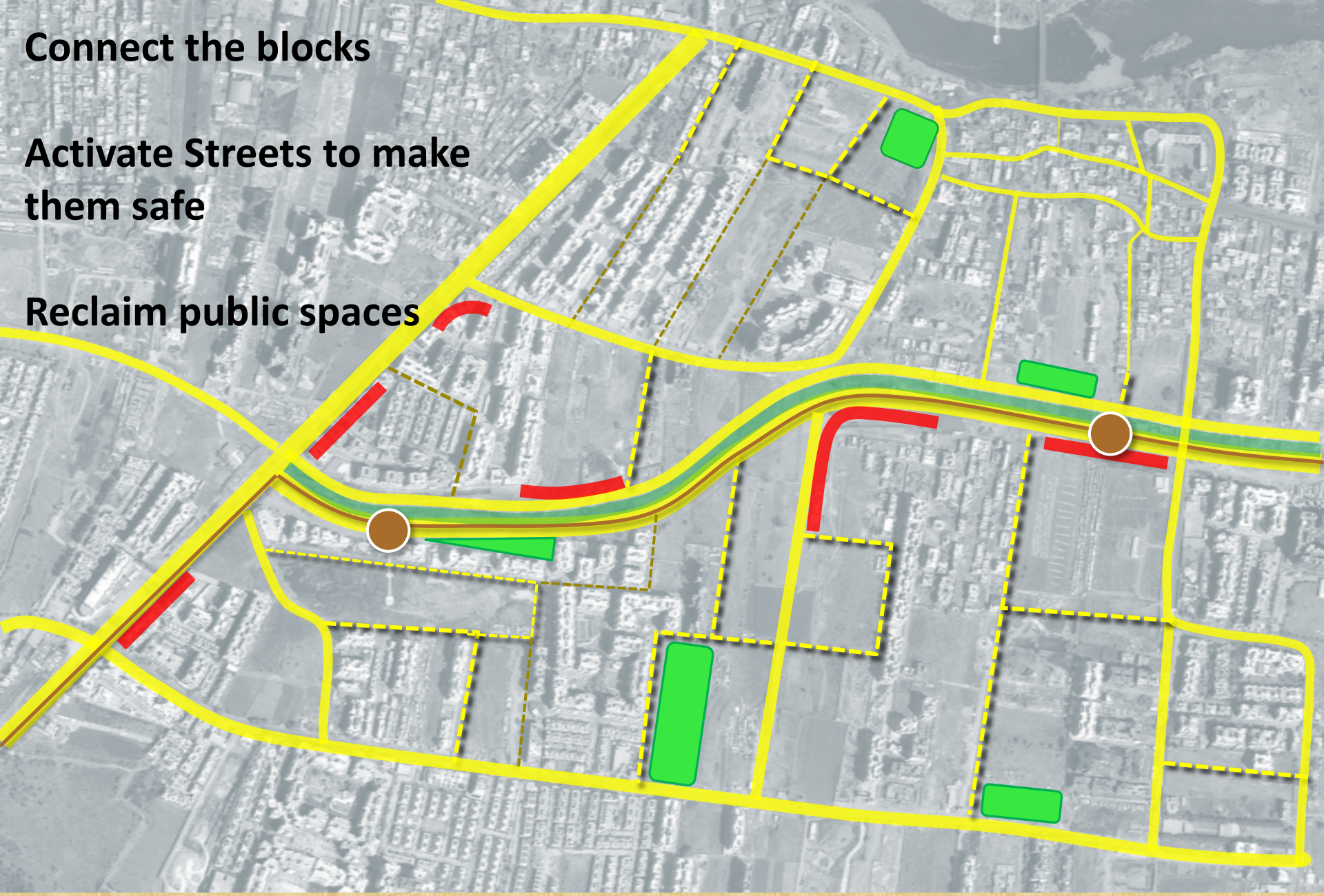


Existing RD network along with Proposed station



PROPOSED ROAD TO INCREASE THE ACCESSIBILTY




Connect the blocks
Activate Streets to make them safe
Reclaim public spaces

Connect the blocks!

Activate Streets!

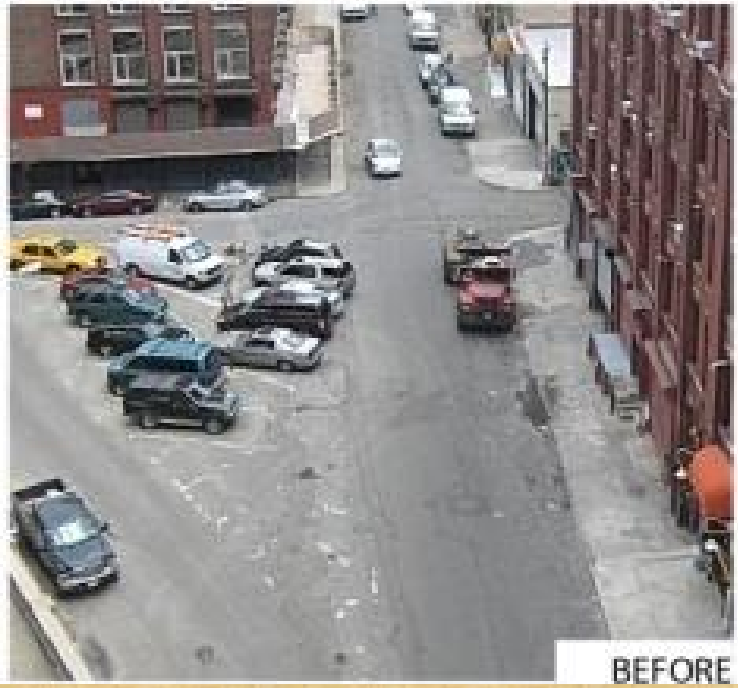
Activate Streets!

Reclaim Public Space!


Reclaim Public Space!

DUMBO, Brooklyn

Before: Community leaders requested more open space for a burgeoning residential and commercial district.
After: DOT reclaimed road space to create a new public plaza.



Reclaim Public Space!

PRIMARY SURVEY OF EXISTING CONDITION OF METRO STATION-29 SECTOR

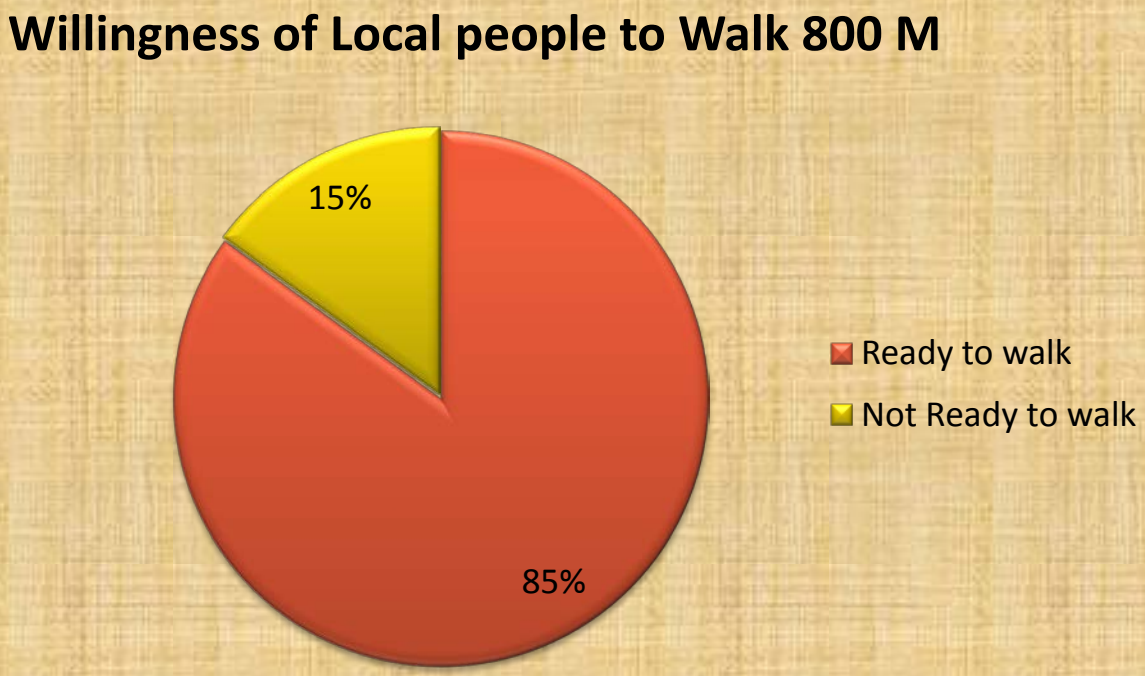
PRIMARY SURVEY OF EXISTING CONDITION OF METRO STATION-SECTOR29

Status of Sector 29 Metro Station

Status of Sector 29 Metro Station

PRIMARY SURVEY OF WILLINGNESS TO WALK

PRIMARY SURVEY OF WILLINGNESS TO WALK 800 M



TOD Consultation with Town Planners and Real Estate Developers

Inaugural Session of workshop

Workshop held with Town Planners and Real Estate Developers and other experts at Gurgoan on 19th November 2016

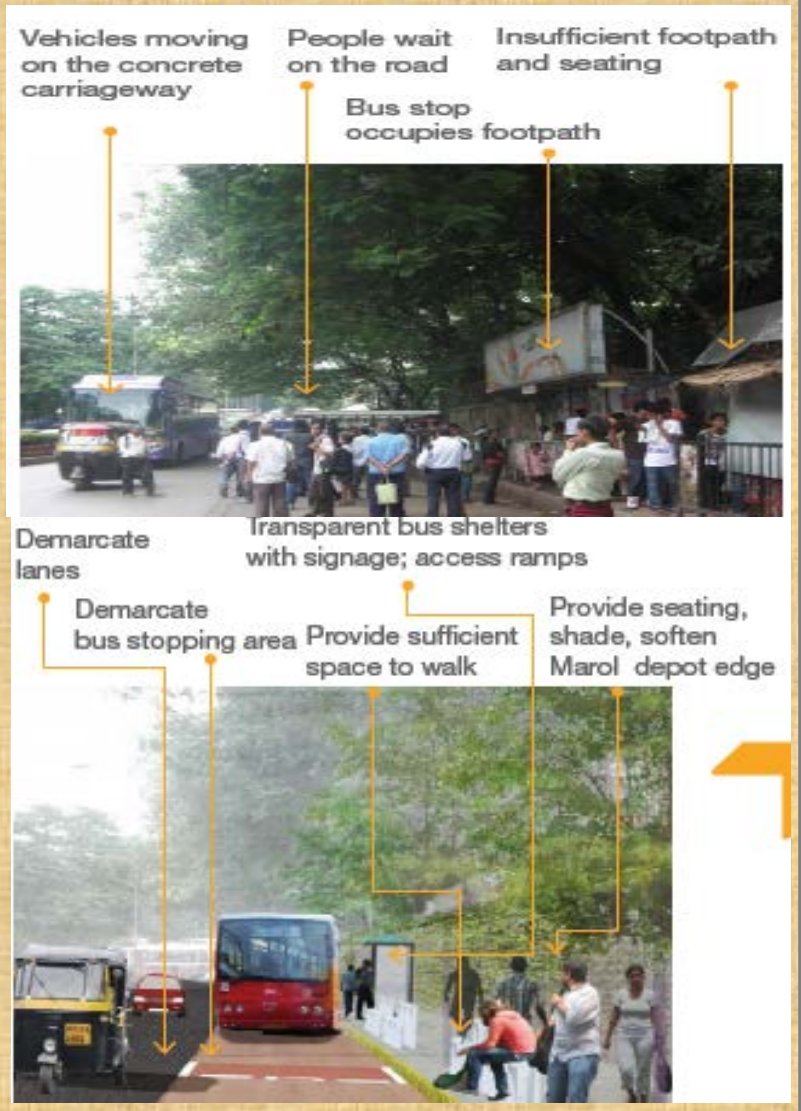
RECOMMENDATIONS

Multi Modal Transport Integration

Haryana TOD policy does not provide integration of multi modal transportation.

Recommendations

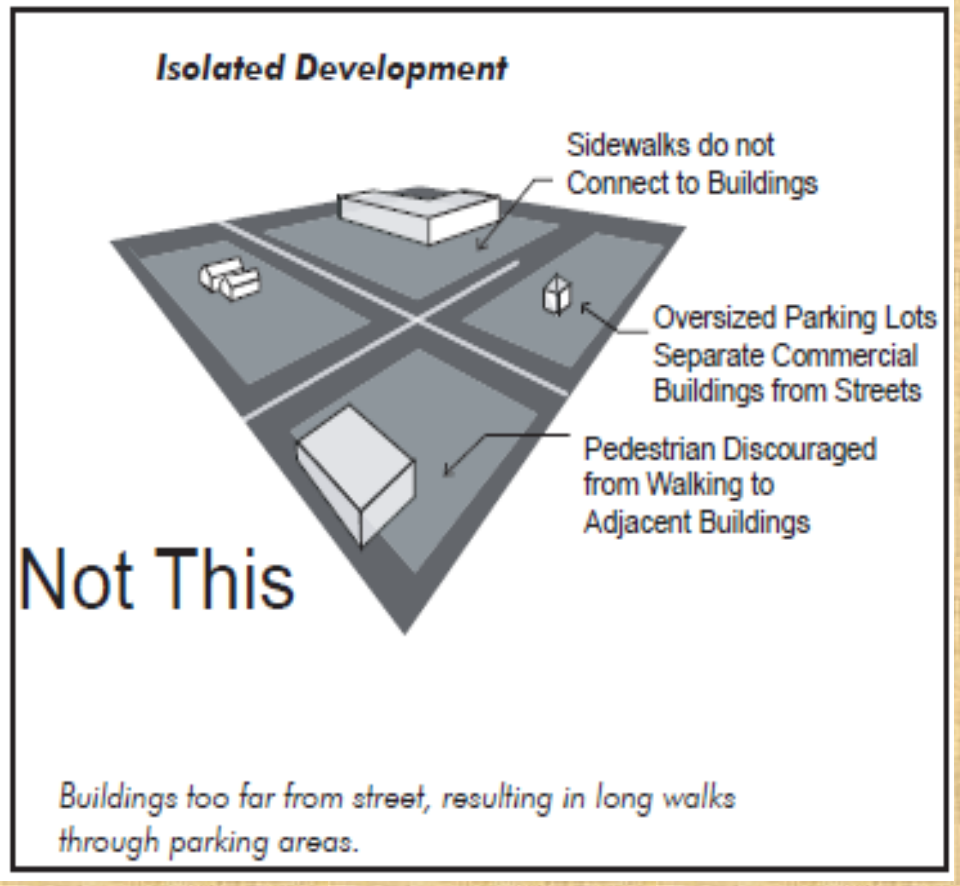
- Coordination of local transit service schedule and routes
- Provision of clearly marked, visible & protected access for pedestrians and cyclist at station areas.
- Provision of multiple mode options for all sections of society with safety and affordability.
- Wherever lack of adequate multiple mode options, need to create new networks and facilities for various NMT and IPT modes.
- All public transport and IPT modes should be available within accessible distance of homes/ offices etc.
- Routes should be direct and accessible to wheelchairs, strollers, scooters and other mobility aids.

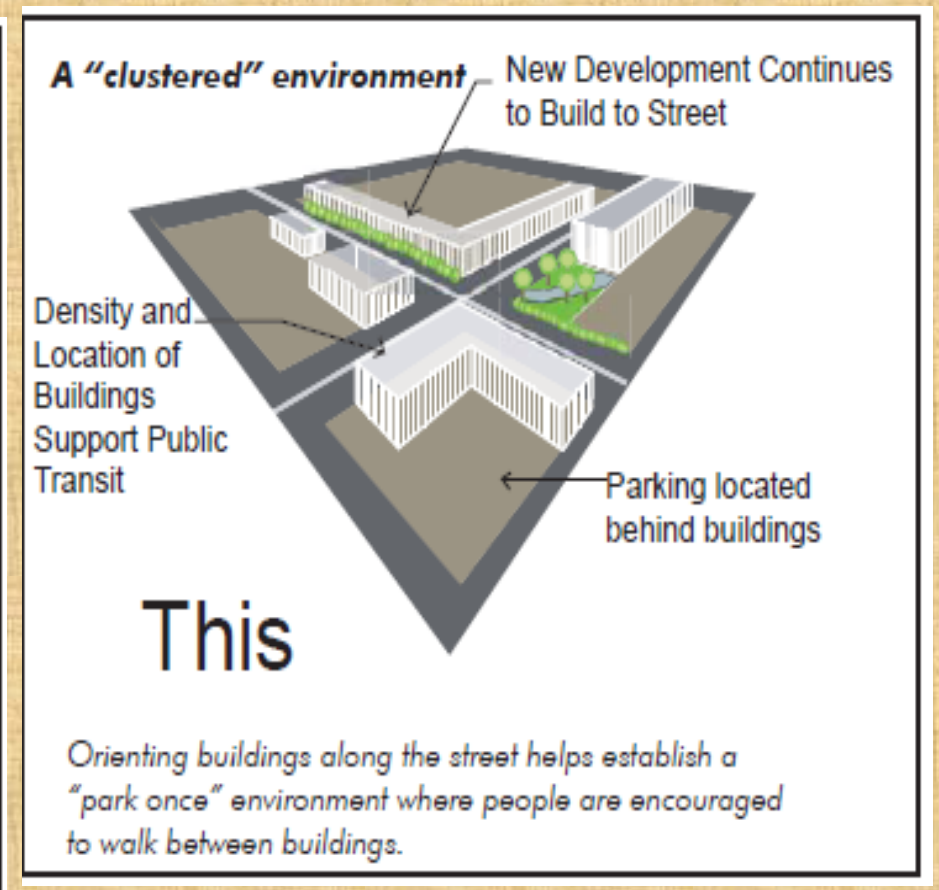


RECOMMENDATIONS

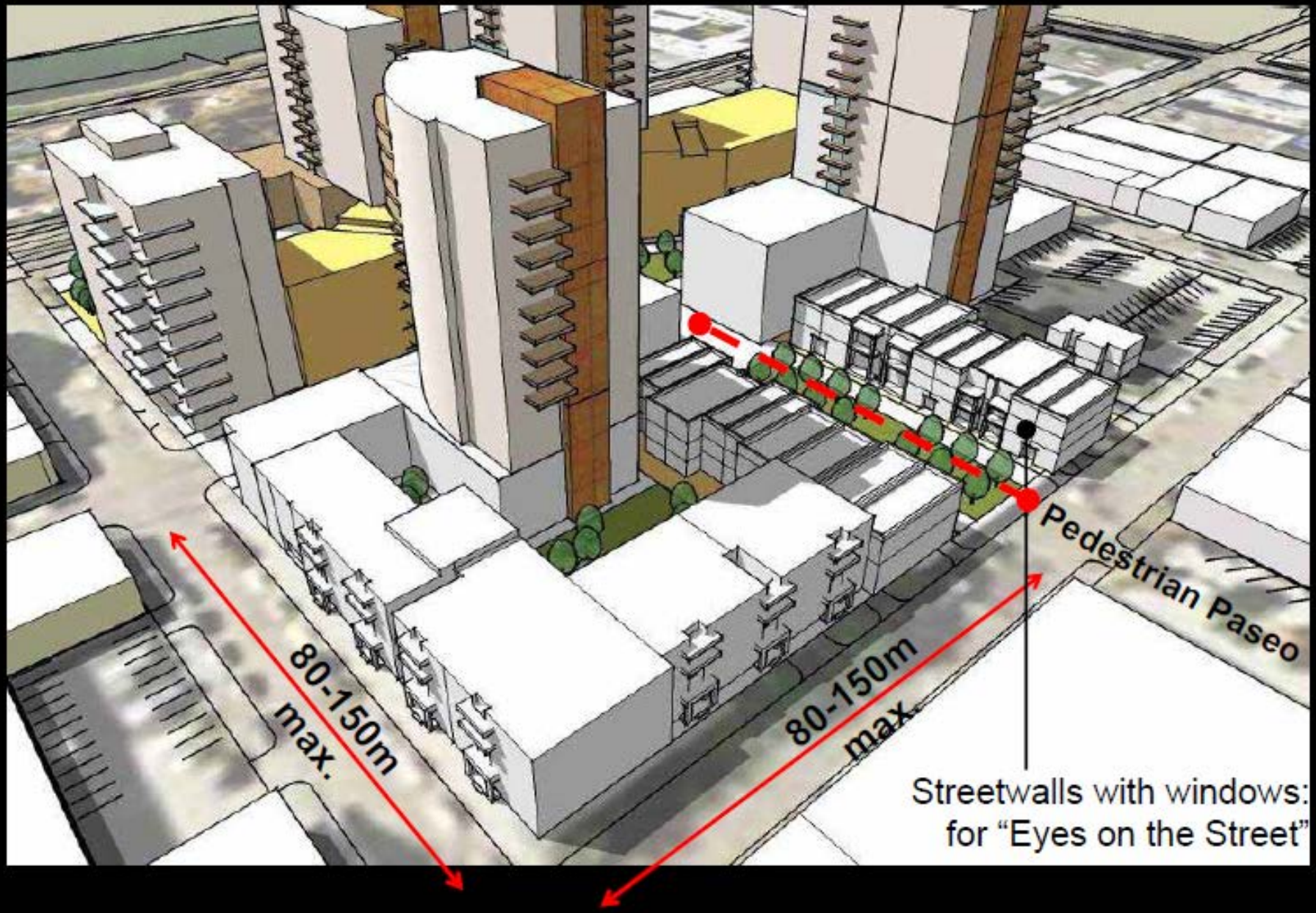
Compact Development

Extent of TOD neighborhoods is based on a comfortable walking distance from edge to centre.





High Connectivity: Smaller block-widths – greater permeability



High Connectivity: Should be *FASTER TO WALK*, than to drive.

Typical Delhi Housing Block

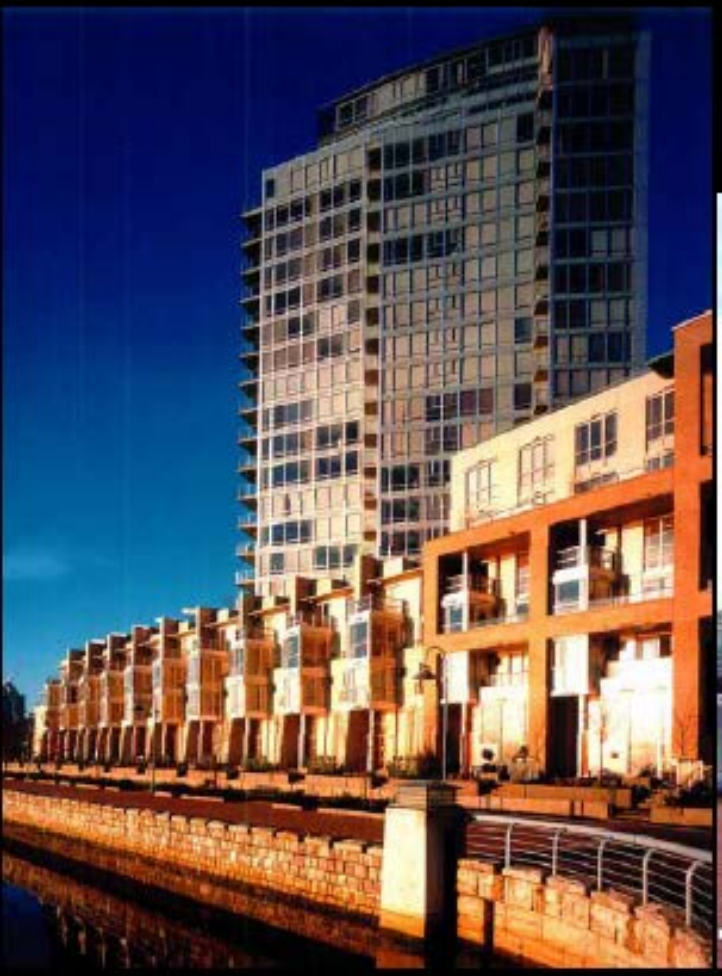
Vancouver Block: e.g. 80 x 125 M

15-minute walk

5-minute walk

Minimized Setbacks and Front entries opening on to the street

Help create Safety through "eyes on the street"



Pedestrian cut through shortcuts

Direct Pedestrian entry to the Stations MRT Corridor in new approvals

- **Commercial Streets are designed with ZERO Setbacks**

To create Safety & Comfort for Pedestrians:

PROPOSED view of Commercial Street **WITH ZERO SETBACKS**:

With: **Built-to-edge buildings, Wide sidewalks, "eyes on the street"**

= SAFE STREETS

AMENDMENT IN THE TOD POLICY AFTER THE PROJECT

Date	Amendment in the policy
05.09.2014	Draft policy notified
09.02.2016	TOD Policy finalized along with Corridors
16.11.2016	Clarification regarding fee and charges
11.04.2017	•Area norms relaxed from 10 Acres to 4 acres for Group housing and 2 acres for commercial to reduce the building blocks size to provide the high and faster connectivity to faster the walk • Mix land use (70 % resi and 30% comm) allowed on the institutional zone
13.06.2017	The parking sizes were defined – 1 ECS 23 sq m open , 28 sq m stilt and 32 sqm for basement
17.07.2017 and 10.10.2017	Procedure for grant of licence- and existing licencee will submit the detailed technical proposal including conceptual plans/schematic design with respect to utilization of the proposed enhanced FAR clearly highlighting in the conceptual scheme with the help of overall blocking / massing to establish and confirm the feasibility of absorption of enhanced FAR were examined and shall be decided .

GURUGRAM METROPOLITAN DEVELOPMENT AUTHORITY (GMDA)

The Haryana cabinet had approved the GMDA Ordinance, 2017 June 1 and Gurugram Metropolitan Area was notified on August 14 and Further GMDA Bill was approved by assembly in the special session on 24th October 2017 under section 21. of the GMDA Ordinance provisions have been made for mobility management plan which are as under :

(1) The Chief Executive Officer shall, in consultation with the Commissioner of Police, Gurugram, Commissioner of the Municipal Corporation, Gurugram, Deputy Commissioner, Gurugram and after such other consultations as the Chief Executive Officer deems fit, prepare from time to time, a mobility management plan for managing mobility in the notified Area.

The mobility management plan shall include –

a) measures for infrastructure development, including improvement of road junctions, construction of roads, bridges, pedestrian footpaths, subways and any other such construction or improvement, as the case may be;

(b) measures for infrastructure development aimed at enhancing safety of life and prevention of accidents on public roads;

(c) measures in regard to public transportation, mass transportation, integrated multi-modal transportation, bus shelters,parking and their improvement;

(d) measures to regulate parking, traffic, including through installation of traffic signals, and the transit of vehicles, including its speed, form, construction, weight or size or laden with such heavy or unwieldy objects as may be likely to cause injury;

(e) measures to regulate access to premises from any particular public street carrying high speed vehicular traffic;

(f) such other measures, as in the opinion of the Chief Executive Officer, the Commissioner of Police, Gurugram, and the Commissioner of the Municipal Corporation, Gurugram, as may be required and subject to any other law for the time being in force for managing mobility in the notified Area. *(3) The mobility management plan shall be submitted to the* Residents Advisory Council and the Council shall make such recommendations, if any, as it may decide.

4)The mobility management plan shall be submitted to the Authority along with the recommendations, if any, of the Residents Advisory Council; and the Authority shall approve the plan with such amendments or modifications, if any, as it deems fit.

(5) The Chief Executive Officer shall cause the mobility management plan, along with such amendments or modifications as the Authority may direct, to be published on the website of the Authority, immediately as soon as may be practicable, on approval of the plan.

(6) The Commissioner of Police, Gururgam, the Commissioner of Municipal Corporation, Gururgam or such other officer as may be empowered under the law for the purpose, shall be responsible for enforcement of the measures in regard to clauses (d) to (f) of subsection (2) requiring the imposition of any penalty for violation of such law for the time being in force.

(7) The exercise of powers by the Commissioner of the Municipal Corporation, Gurugram under section 221 of the Haryana Municipal Corporation Act, 1994, shall be in accordance with themobility management plan.

Thanks