

An aerial photograph of a Delhi Metro train crossing a bridge over a multi-lane highway. The train is red and blue, moving from left to right. The highway below has several lanes with cars and buses. There are green trees and some buildings in the background. The text is overlaid on the image.

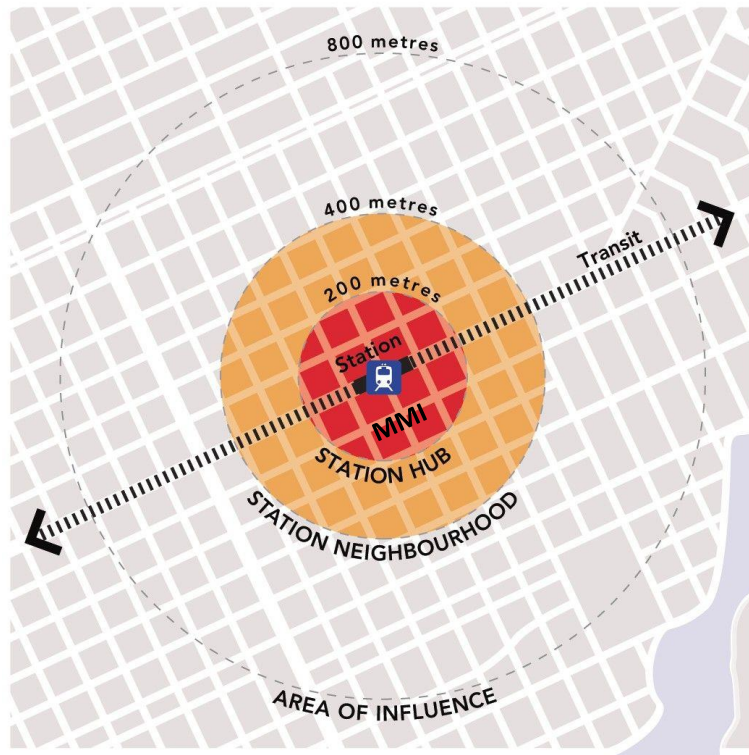
# **FASCILITATING IMPLEMENTATION OF TRANSIT ORIENTED DEVELOPMENT(TOD)**

**AJIT SHARMA**  
DIRECTOR FINANCE

**DELHI METRO RAIL CRPORATION LIMITED**

# INTRODUCTION - TOD (Transit Oriented Development )

- Transit-Oriented Development (TOD) is an urban planning approach focused on creating communities where residential, commercial, and recreational areas are conveniently located within walking distance of public transportation.
- A Transit-Oriented Development (TOD) typically features a central transit stop within a high-density mixed-use area, promoting walkability through smaller block sizes and reduced automobile land use.
- The densest areas of a TOD are normally located within a radius of 200 m to 400 m around the central transit stop, as this is considered to be an appropriate scale for pedestrians, thus solving the last mile problem.



**Influence Zone** - of a transit station is an approximate area of 800m radius (a walking distance of 5-10- minutes) from the points of alighting at the station.

- TOD Planning Area** - is a notional area of **800 m** radius around transit stations.
- Intense Development Area** – is a notional area of **400 m** radius around the transit station(station neighbourhood) within the TOD Planning Area.
- Transit Hub** – The immediate **200 m** radius of the transit that has the transport mode and MMI.



# WHY - TOD ??

T

Generating sustainable non-fare revenues via property and station development.

T

Decreasing travel demand in terms of passenger kilometers.

T

Promoting balanced utilization of transport resources by ensuring well-distributed central business districts (CBDs) and residential clusters.

U

Meeting the increasing demand for a high-quality urban lifestyle.

U

Responding to the rising desire for pedestrian-friendly living spaces.

U

Addresses the escalating pollution issues.

U

Aligning with the growing national support for smart, digital-focused, and sustainable growth initiatives.





# PLANNING FOR TOD

## WALK

DEVELOPING NEIGHBORHOODS THAT PROMOTE WALKING

## CYCLE

PRIORITIZE NONMOTORIZED TRANSPORT NETWORKS

## TRANSIT

LOCATE DEVELOPMENT NEAR HIGH-QUALITY PUBLIC TRANSPORT

## CONNECT

CREATE DENSE NETWORKS OF STREETS AND PATHS

## MIX

PLAN FOR MIXED USES, INCOME, AND DEMOGRAPHICS

## DENSIFY

OPTIMIZE DENSITY AND MATCH TRANSIT CAPACITY

## COMPACT

CREATE REGIONS WITH SHORT TRANSIT COMMUTES

## SHIFT

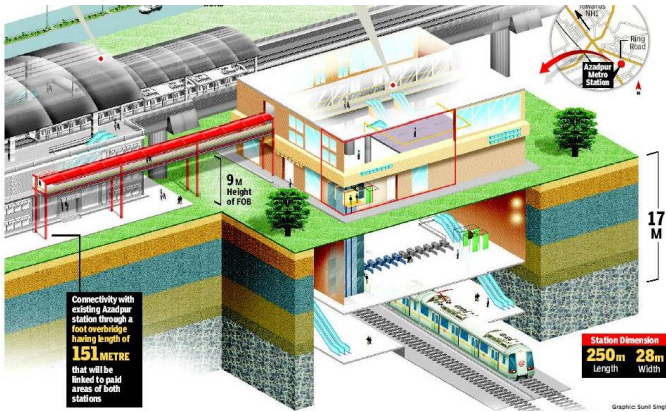
INCREASE MOBILITY BY REGULATING PARKING AND ROAD USE



# PROJECT DEVELOPMENT - WHO's RESPONSIBILITY??

TOD areas for the major cities and towns are grouped into three categories.

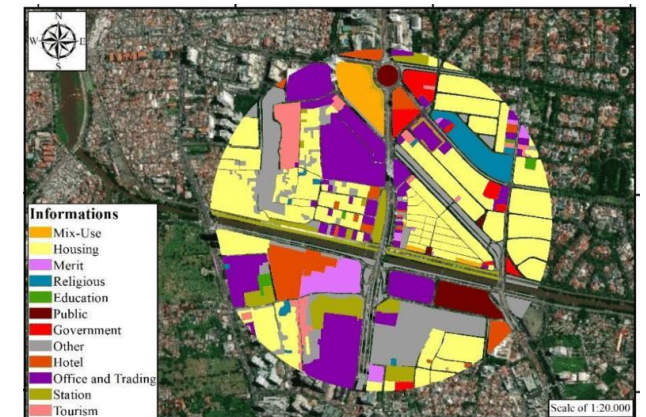
1. **Transport Node/Hub Development** – Transport Authorities (DMRC/DTC/NCRTC)
2. **Multi Modal Integration (MMI)** – Transport Authorities (DMRC/DTC/NCRTC)
3. **Influence Zone for TOD** – All Concerned Stakeholders.(DDA/DJB/ELEC./PWD)



1. TRANSPORT NODE DEVELOPMENT



2. MULTI MODAL INTEGRATION



3. INFLUENCE ZONE



# HOW TO REALIZE THE PLAN TO DEVELOP TOD

**ESTABLISHMENT OF A VISION FOR TOD**

**SELECTION OF THE SITE NEAR HIGH QUALITY PUBLIC TRANSPORT HUB/NOD**

**ENGAGEMENT WITH STAKEHOLDERS AND COMMUNITY**

**PREPARATION & APPROVALS OF INFLUENCE ZONAL PLANS**

**IDENTIFICATION OF RESPONSIBILITY OF EACH STAKEHOLDERS**

**EACH STAKEHOLDERS SHALL FINALISE FINANCING OPTIONS**

**IMPLEMENTATIONS, MONITORING & COORDINATION BY THE CONCERNED AGENCIES**





# TYPES OF TOD BASED OF URBAN CLASSIFICATIONS

- GREENFIELD TOD PROJECTS



Greenfield TOD projects involve the development of previously less-developed or vacant land, often on the outskirts of urban areas or in suburban locations.

- BROWNFIELD TOD PROJECTS



Brownfield TOD projects involve the redevelopment or repurposing of previously developed land that may be abandoned, and underutilized. This land may have had industrial, commercial, or residential use in the past.



# GREENFIELD VS BROWNFIELD

ATTRIBUTES	GREENFIELD	BROWNFIELD
INITIAL INVESTMENT COST	MEDIUM	VERY HIGH
LAND ACQUISITION	EASY	DIFFICULT
PRIVATE INVESTMENT	DIFFICULT	EASY
PROJECT TIMELINE / APPROVAL PROCESS	SHORT AND EASY	LENGTHY AND DIFFICULT
RISK AND UNCERTAINTIES	LOW	HIGH





# TRANSIT ORIENTED DEVELOPMENT – TOD POLICY 2021 - DDA



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CG-DL-E-30072021-228596

असाधारण  
EXTRAORDINARY  
भाग II—खण्ड 3—उप-खण्ड (ii)  
PART II—Section 3—Sub-section (ii)  
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आवासन और शहरी कार्य मंत्रालय  
(दिल्ली प्रभाग)

अधिसूचना

नई दिल्ली, 30 जुलाई, 2021

MINISTRY OF HOUSING AND URBAN AFFAIRS

(DELHI DIVISION)

NOTIFICATION


New Delhi, the 30th July, 2021

**S.O. 3063(E).**—Whereas, certain modifications which the Central Government proposed to make in the Master Plan for Delhi-2021 with respect to notified policy for Transit Oriented Development (TOD), as part of its Master Plan modification, which were published in the Gazette of India, Extraordinary, as Public Notice S.O. No 119 (E) dated 13<sup>th</sup> January, 2021 by the Delhi Development Authority in accordance with the provisions of Section 44 of the Delhi Development Act, 1957 (61 of 1957) inviting objections/suggestions as required by sub-section (3) of Section 11A of the said Act, within 45 days from the date of the said notice.

### 3. NODES IDENTIFIED FOR TOD DEVELOPMENT

The following TOD Nodes have been identified to be taken up in the first phase:

- 3.1. Kashmere Gate Multi-modal Transit Hub
- 3.2. Nizamuddin/ Sarai Kale Khan Multi-modal Transit Hub
- 3.3. Anand Vihar Multi-modal Transit Hub
- 3.4. New Delhi Railway station
- 3.5. Dwarka Sector-21 metro station
- 3.6. Dwarka Sector-8 to Sector-14 metro stations corridor
- 3.7. Jangpura RRTS station
- 3.8. Haiderpur Badli Mor metro station (Mukarba Chowk)
- 3.9. Rohini Sector-18 metro station
- 3.10. Mukundpur metro station
- 3.11. Karkardooma pink and blue line metro stations taken together
- 3.12. Trilokpuri metro station

 Integrated Zonal Plans (IZP) for the development of the Nodes under TOD schemes are under preparation.  
By DMRC / NCRTC



# CASE STUDY FOR REPLICATION

NOTE : - DMRC TILL DATE HAVE PRIMARILY HAVE DONE STAION DEVELOPMENT AND MMI PROJECTS,  
HOWEVER THEY ARE NOT A PART OF A COMPREHENSIVE TOD PROJECTS

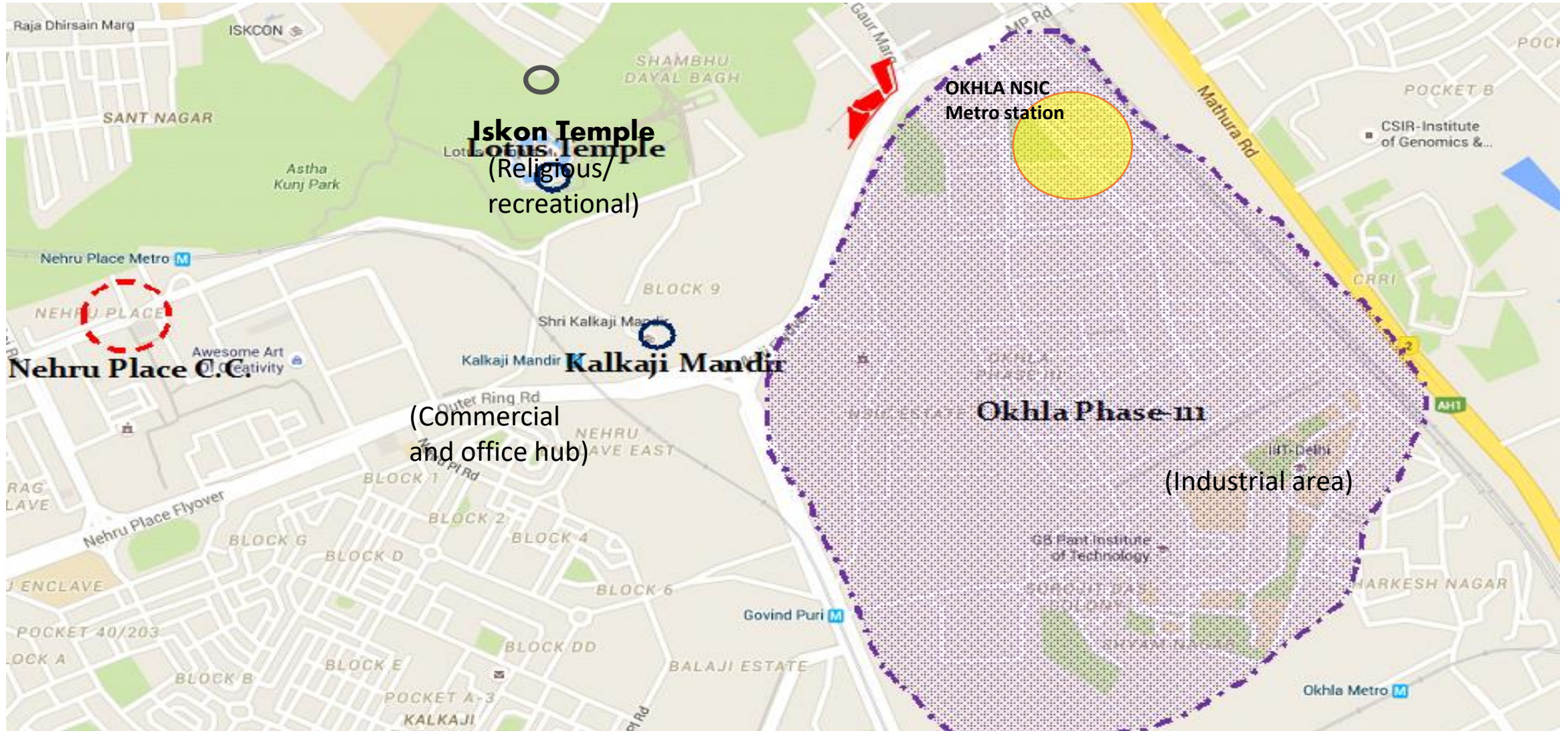


# INTEGRATED PROPERTY DEVELOPMENT – OKHLA NSIC





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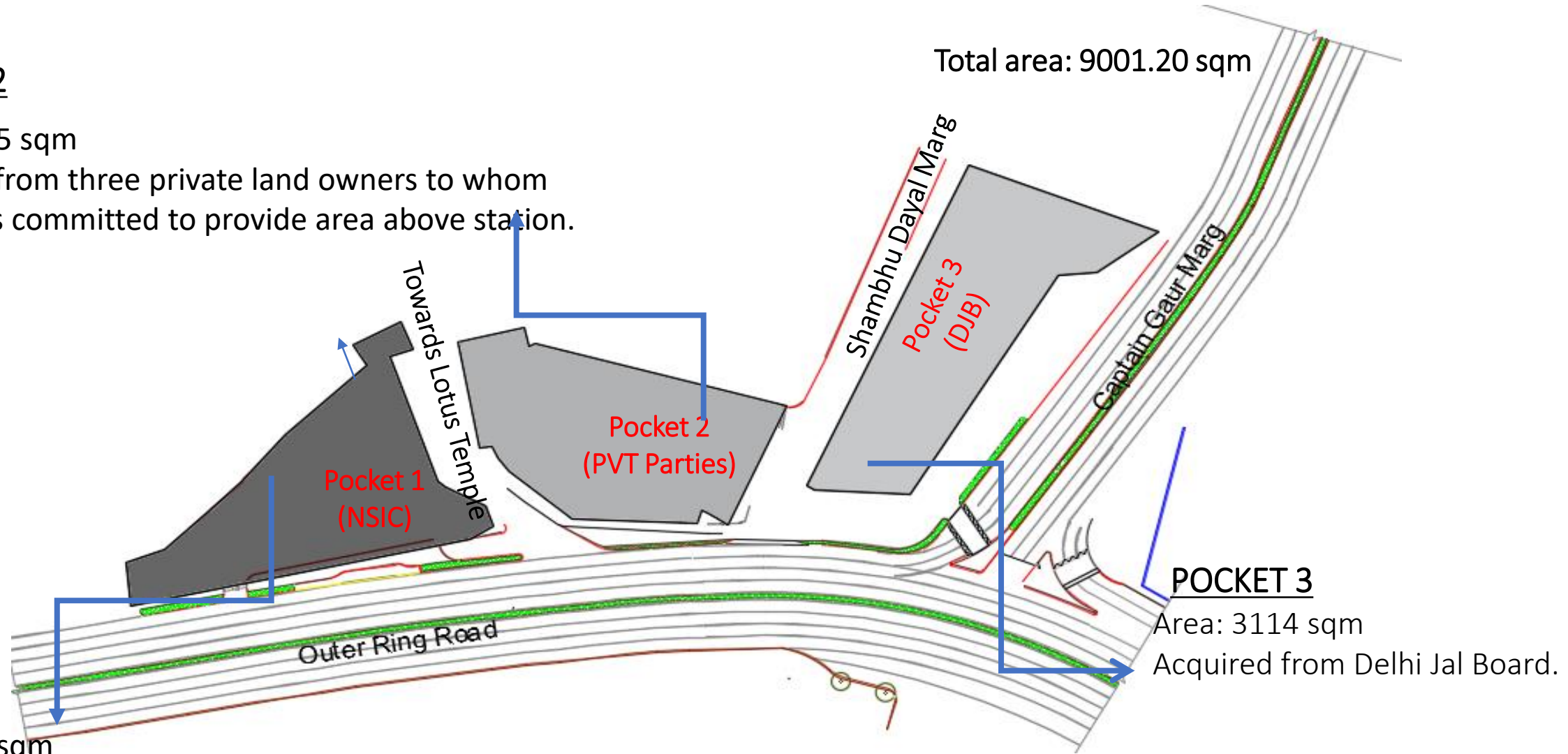


# INTEGRATED PROPERTY DEVELOPMENT – OKHLA NSIC

## POCKET 2

Area: 2965 sqm

Acquired from three private land owners to whom DMRC has committed to provide area above station.



## POCKET 1

Area: 2922 sqm

Acquired from National Small Industries Corporation



**INTEGRATED PROPERTY DEVELOPMENT – OKHLA N**

Structure  
e apartments and parking  
om, DG Set and other services

**STATION ENTRY STRUCTURE**

**Pocket 3**

- Entry Structure
- Station Parking

**Pocket 2**

- Entry Structure
- Main Station Body
- PD Areas and PAP

**STATION ENTRY STRUCTURE 'A'**

- Entry Structure
- 93 Service apartments and parking
- Pump Room, DG Set and other services

## STATION ENTRY STRUCTURE 'A'

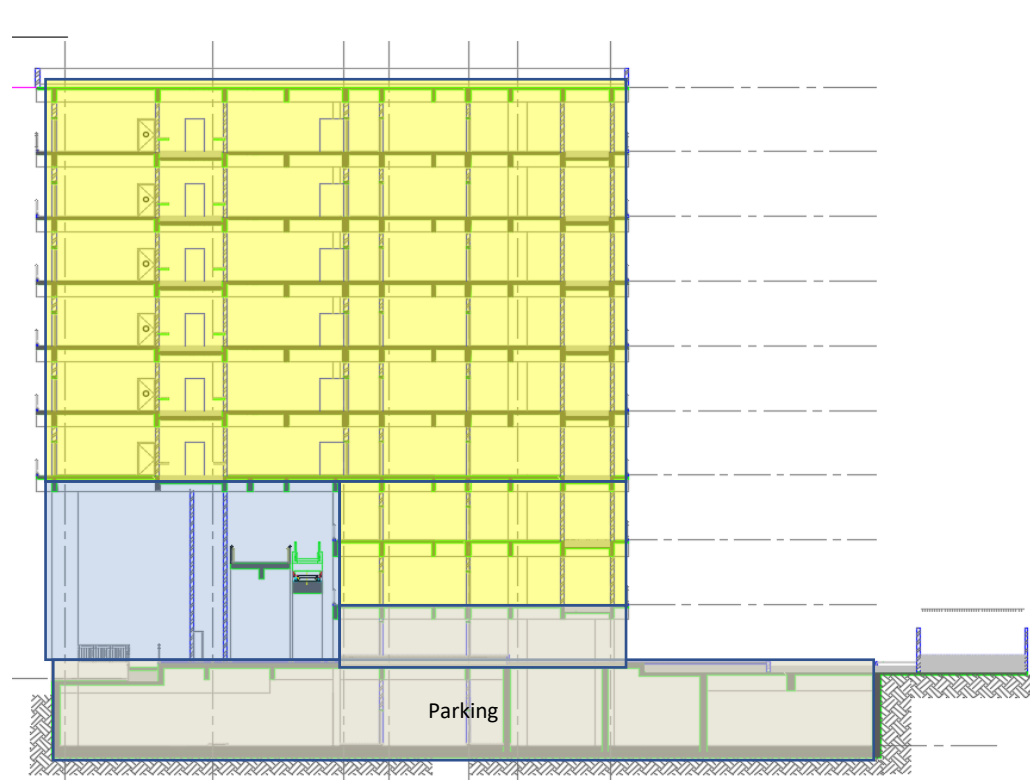
- Entry Structure
- Station Parking & MMI

- Entry Structure
- Main Station Body
- PD Areas and PAP

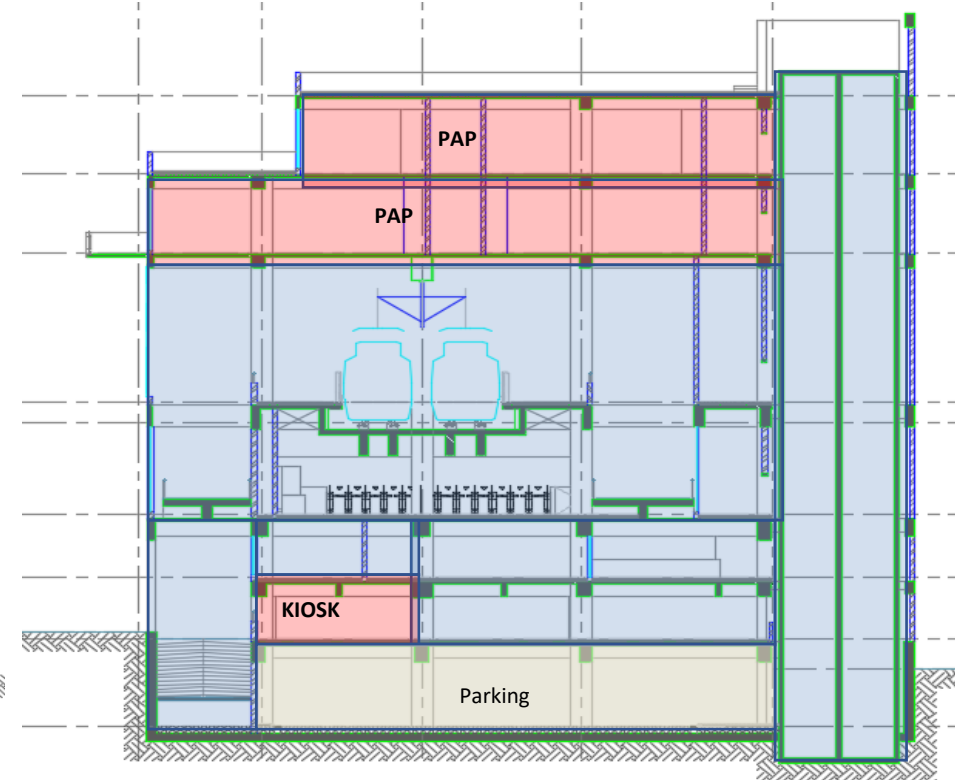








# INTEGRATED PROPERTY DEVELOPMENT – OKHLA NSIC



Service Apartment



PAP above Metro Station

-  Service apartment
-  Kiosk / PAP
-  Operational Area/ Services
-  Service apartment & Station Parking



# INTEGRATED PROPERTY DEVELOPMENT – OKHLA NSIC



- The project comprises a total area of 8186 Sqm. with 93 Service apartment





# INTEGRATED PROPERTY DEVELOPMENT – OKHLA NSIC



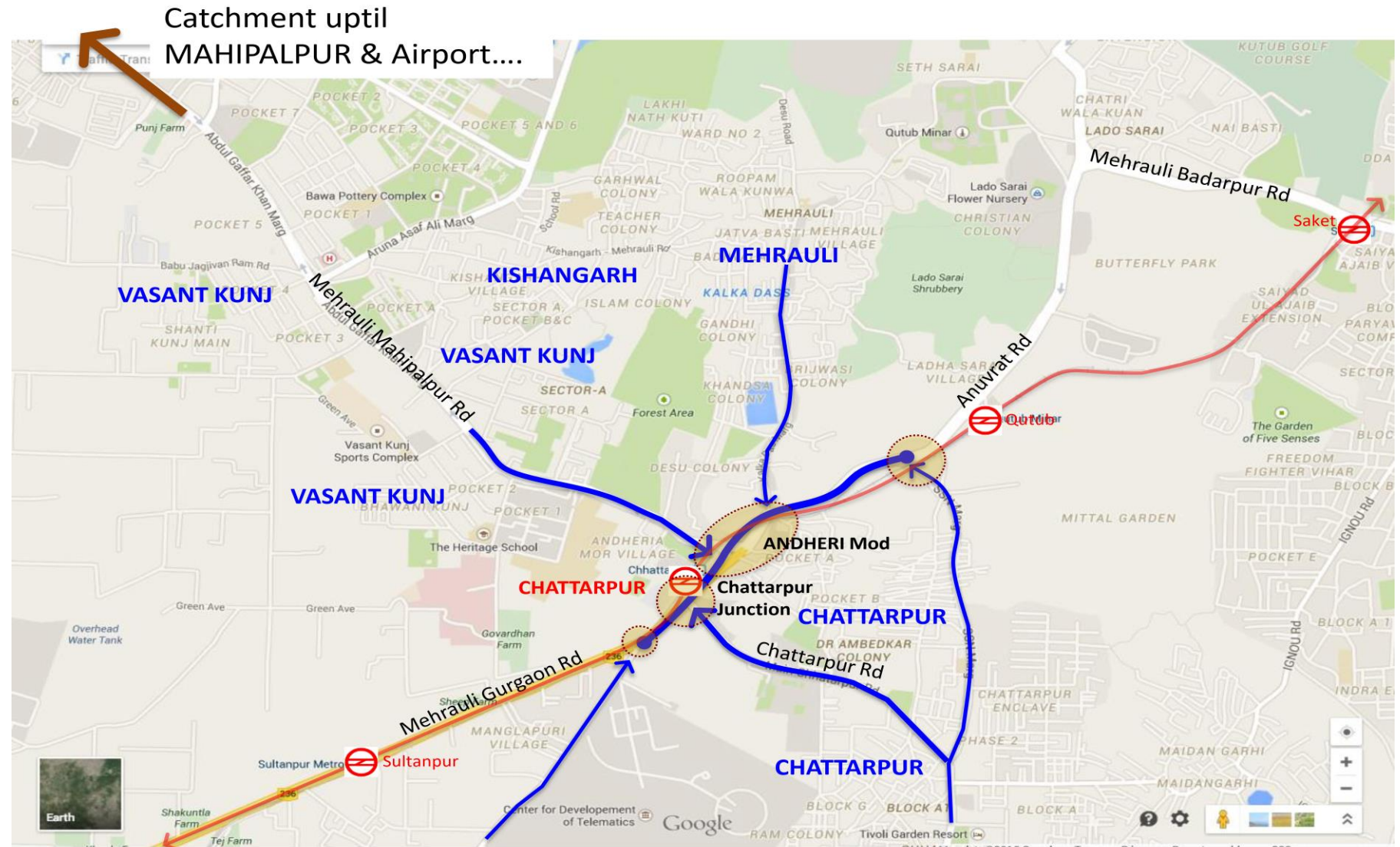


# MULTI MODAL INTEGRATION DEVELOPMENT - CHHATARPUR



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Chhatarpur Metro Station is developed as **Multi Model integration (MMI)** for a pilot project. Four nodes have been identified out of which 3 nodes are completed.





# MULTI MODAL INTEGRATION DEVELOPMENT - CHHATARPUR

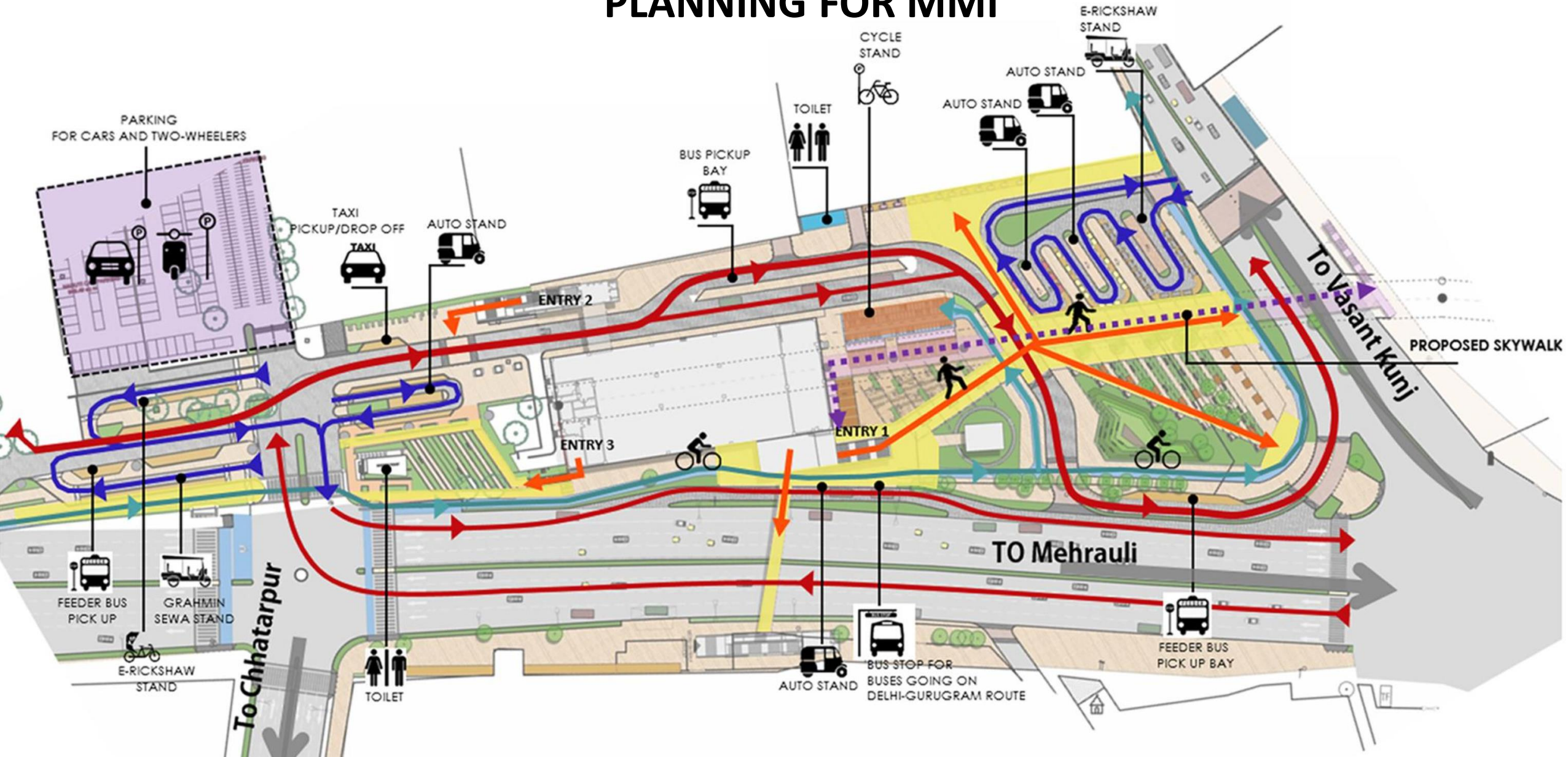


- Chhatarpur Metro Station's catchment extends up to approximately **7 km** with a daily footfall of approx. **60,000 people**.
- People using different modes like feeder buses, auto rickshaws, gramin seva, city buses, taxis, etc. to complete their travel trips.



# MULTI MODAL INTEGRATION DEVELOPMENT - CHHATARPUR

## PLANNING FOR MMI





# MULTI MODAL INTEGRATION DEVELOPMENT - CHHATARPUR

**BEFORE**

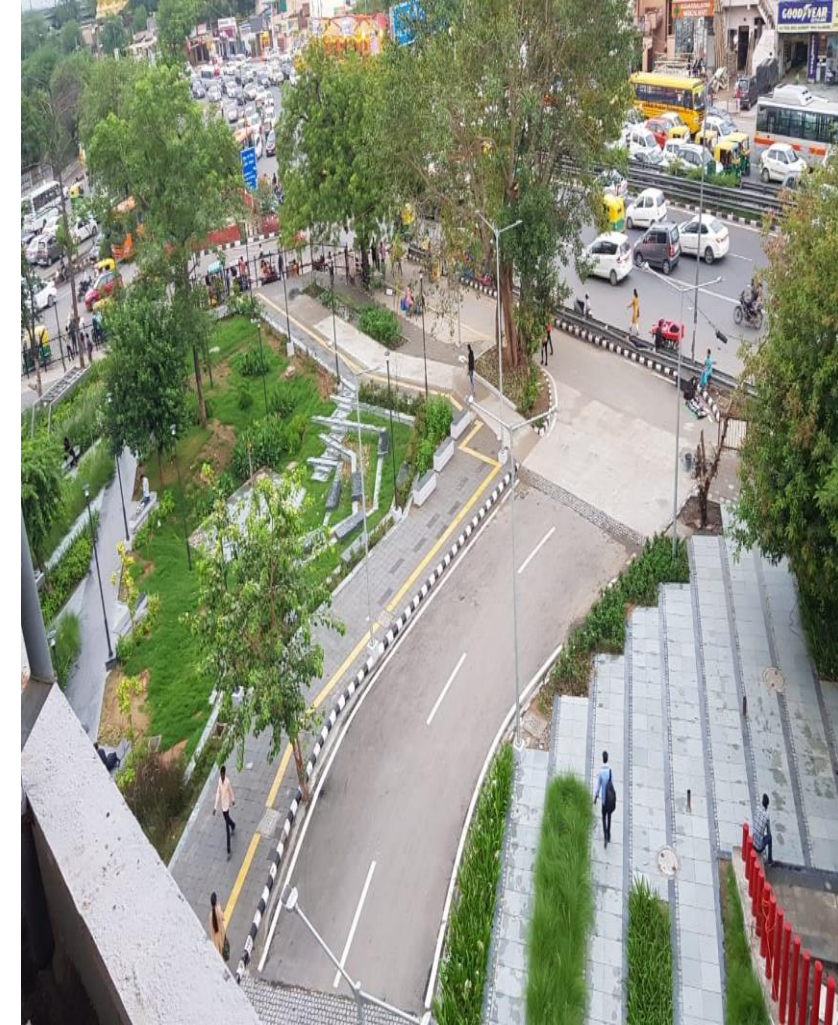


**AFTER**





# MULTI MODAL INTEGRATION DEVELOPMENT - CHHATARPUR





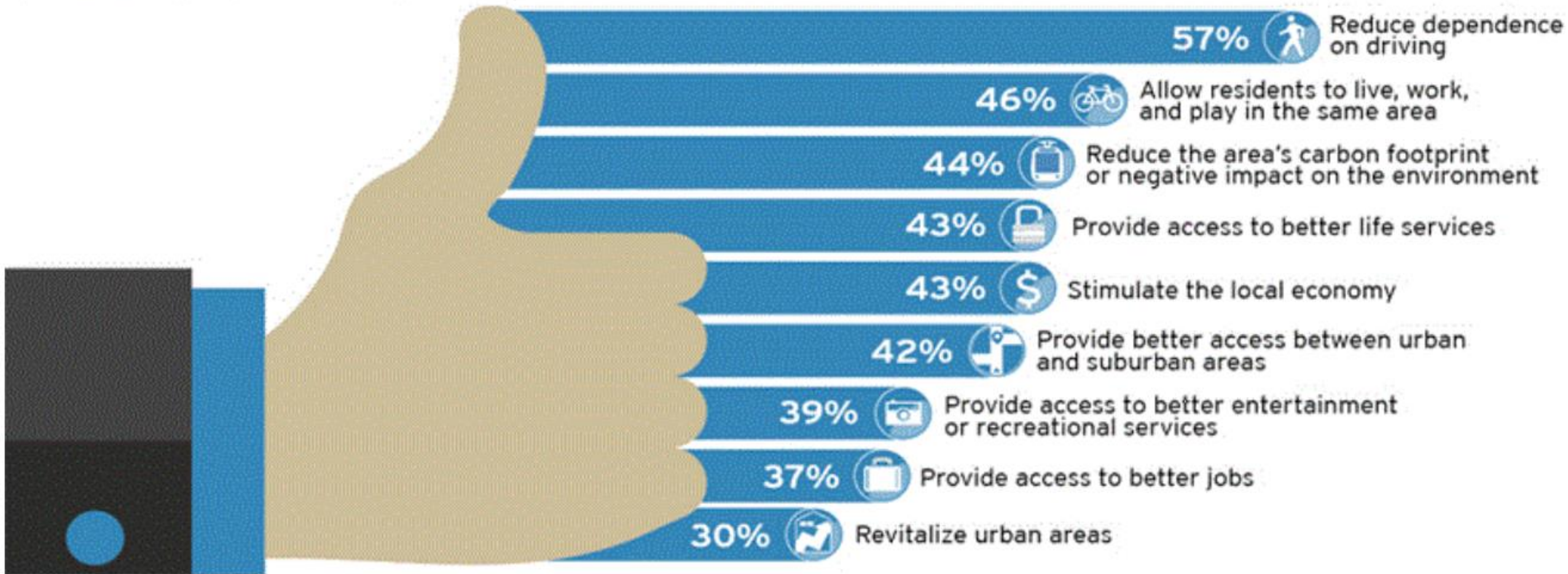
# WAY FORWARD

- To identify more Transport nodes for TOD, based on transit connectivity, quality of urban environment and market potential.
- Cost of preparing IZP's through expert consulting firm/institutions should be funded by the Government/Development Authorities.





# TRANSIT ORIENTED DEVELOPMENT – TOD- BENEFITS



# WAY FORWARD -

Delhi Metro Rail Corporation (DMRC) working on the following initiatives for Transit-Oriented Development (TOD) and Multi-Modal Integration (MMI):

