

Delhi – Meerut RRTS Corridor **Implemented by** **National Capital Region Transport Corporation (NCRTC)**

A Presentation by:

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Overview

What is RRTS and its benefits

Brief introduction of NCR Transport Corporation and the RRTS Corridors

Introducing the Delhi – Ghaziabad- Meerut RRTS Corridor

Statement of Problem

Increasing Ridership through Multi Modal Integration

Land Value Capture through innovative means

What is Regional Rapid Transit System (RRTS)?

- RRTS is a **Rail based Regional Rapid Transit System** with a design speed of 180 kmph and an average speed of 100 kmph. It is either elevated or underground or may be at grade
 - Inter station distances: 5 – 10 Km
 - Once operational, it will be **the FASTEST, the most COMFORTABLE and the SAFEST** mode of travel in NCR
 - **This shall be the First RRTS Network in India**
- ❖ **RRTS Vs Metro: Both are Supplement to each other**

RRTS	Design Speed 180 Km/hr	Ops Speed 160 Km/hr	Average Speed 100 Km/hr 150 Km/hr for Non Stop	Time to Travel 100 Km – 1 Hour
Metro	Design Speed 90 Km/hr	Ops Speed 80 Km/hr	Average Speed 32 Km/hr	Time to Travel 100 Km – 3 hours

RRTS Trains will travel at 3 times the average speed of Metro



What is Regional Rapid Transit System (RRTS)?



1

High Speed connectivity



2

High Frequency
5 to 10 minutes



3

High Capacity
2150 passengers
per train (12 car)



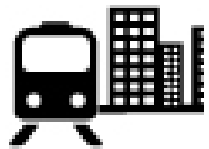
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Comfortable journey AC coaches , Airline type seating



5

Comparatively Affordable Fares



6

Reduced Land use for same throughput



7

User Friendly Information System



8

Multimodal Integration



9

Safe Travel

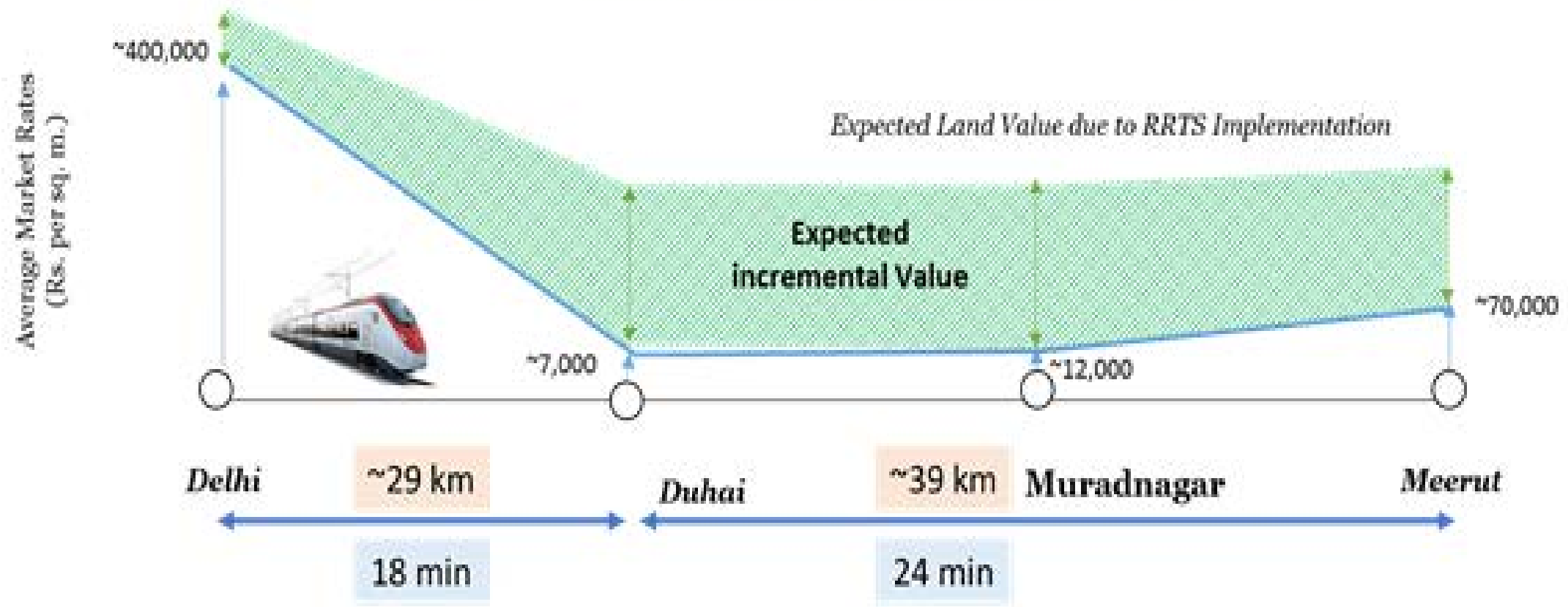


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Weather Proof

Outcomes of RRTS

*The value differential in land value will be significant owing to **high speed**, **reduction in travel time** and **wider reach***

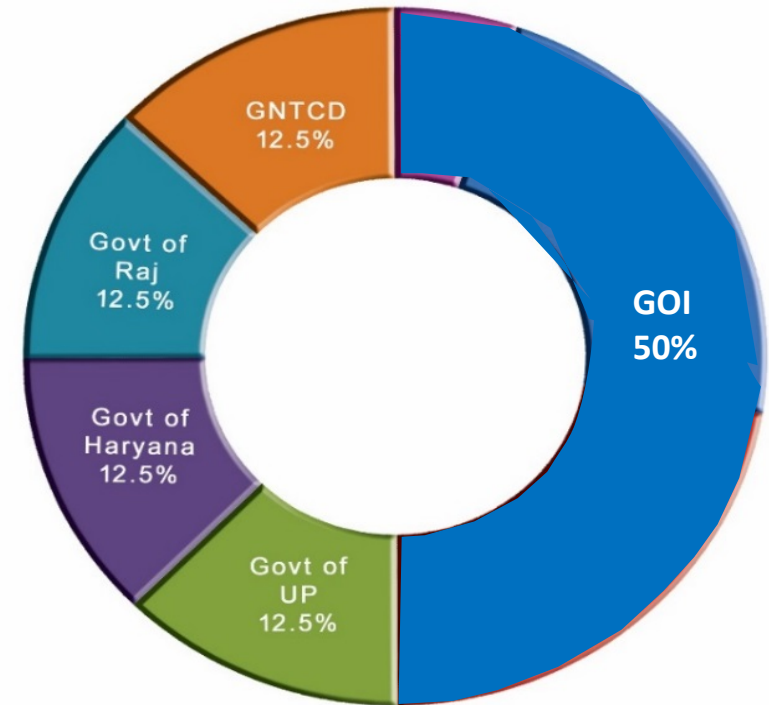


Outcomes of RRTS

- **High throughput meeting the future demand**
- **Direct connection and Multi-modal integration**
- **Reduced congestion**
- **Reduced pollution**
- **More efficient allocation of resources for masses**
- **Reduced and distributed load on civic amenities**
- **Lesser vehicular traffic on roads and hence lesser accidents**

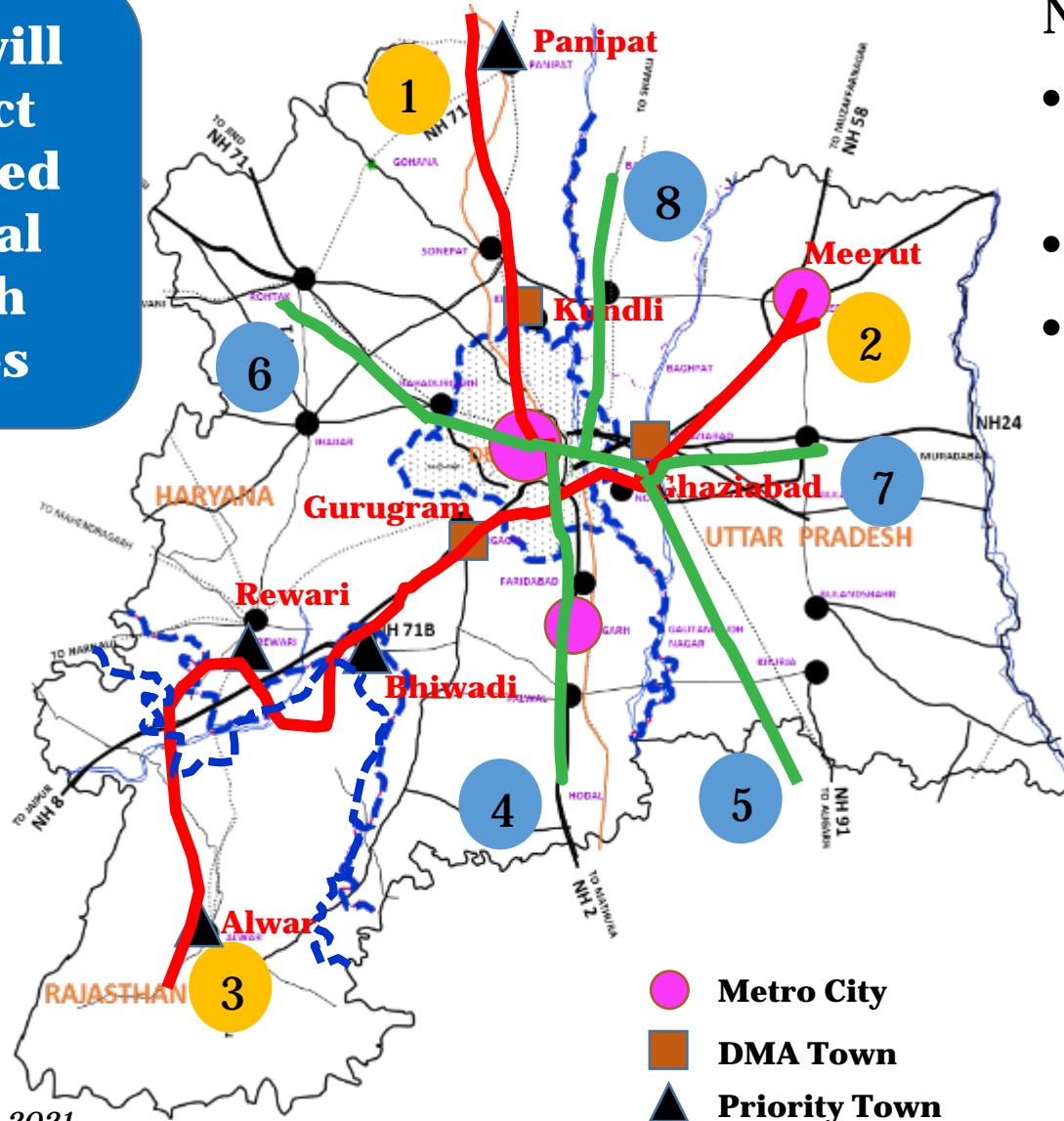
NCRTC – The Implementing Agency

- Four State Governments joined hands with GoI through a MoU on 29.06.2011, to implement country's first Regional Rapid Transit System in NCR
- NCRTC is mandated for implementation of RRTS in the NCR, including design, construction, operation and maintenance
- Equity structure of NCRTC is :
Govt of India - 50%
States of NCR -50% (12.5% each)
(Delhi, UP, Rajasthan Haryana)



Proposed Eight (8) RRTS Corridors in NCR

RRTS will connect identified regional growth centres



National Capital Region (NCR)

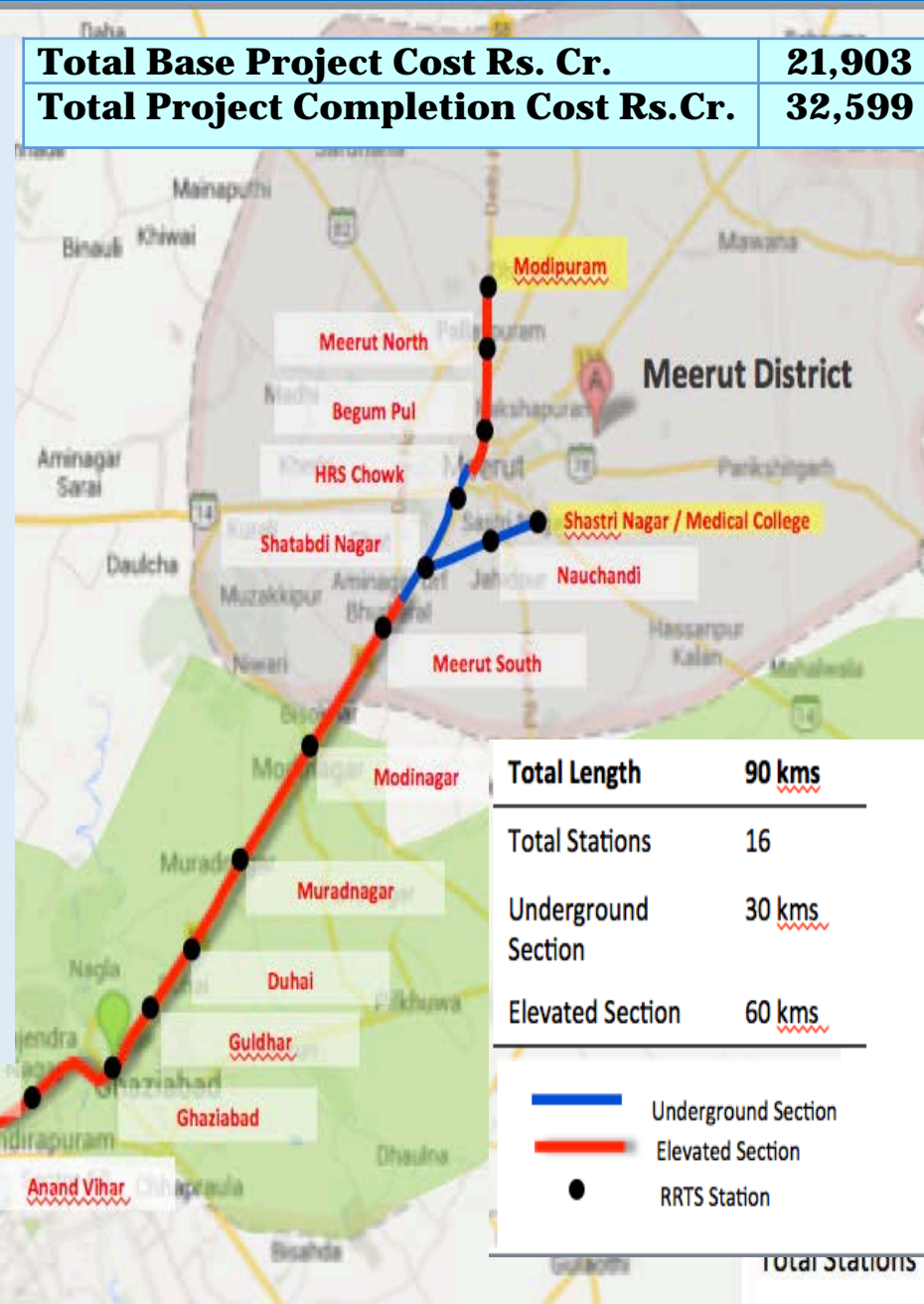
- Multi-state region with National Capital as Centre
- Area of about 58,000 Sq Km
- With ~46 million population (census 2011), largest metropolitan area in the world.

Sl. No.	RRTS Corridors
Prioritised Corridors Identified for execution	
1	Delhi – Sonipat – Panipat : 111 km
2	Delhi - Ghaziabad -Meerut : 90 km
3	Delhi - Gurgaon – Rewari - Alwar : 180 km
For Second Phase	
4	Delhi – Faridabad – Ballabgarh - Palwal
5	Ghaziabad – Khurja
6	Delhi - Bahadurgarh - Rohtak
7	Ghaziabad-Hapur
8	Delhi-Shahadra-Baraut

Delhi-Ghaziabad-Meerut RRTS Corridor

Station Name	Inter-station Distance (KM)	Distance (Cumulative)	Travel Time from Delhi in (Mins)
Sarai Kale Khan		0.0	
Anand Vihar	9.70	9.70	7
Sahidabad	6.70	16.40	12
Ghaziabad	2.50	21.30	18
Guldhar	3.30	24.60	23
Duhai	4.10	28.70	26
Muradnagar	7.30	36.00	31
Modi Nagar	9.40	45.40	36
Meerut South	7.60	53.00	42
Shatabdi Nagar	7.90	60.90	47
HRS Chowk	3.10	64.00	50
Begumpul	3.40	67.40	53
Meerut North	7.05	74.45	59
Modipuram	3.75	78.20	62
Spur Line			
Nauchandi	4.80	65.70	
Shastri Nagar	5.00	70.70	
Length at Ends	2.00	90.20	
Total		90.20	

Total Base Project Cost Rs. Cr.	21,903
Total Project Completion Cost Rs.Cr.	32,599



Statement of Problem

Capital Intensive Project? Who shall bear the Cost?

- ✓ **Fare Revenue is constrained by the affordability of the Users and viability of the project**
- ✓ **Revenue from many Non Fare Revenue sources such as Property Development and Advertisements, Branding etc. are also indirectly dependent on the to the ridership**
- **Potential options for increasing Ridership along the RRTS Corridor should be explored for the Sustainability of the Project.**
- **Use of Innovative Sources of Land Value Capture are very essential**

Multi Modal Integration of RRTS with DMRC and Indian Railway Stns.

At Sarai Kale Khan:

- DMRC
- ISBT
- Hz. Nizamuddin Rly. Stn

At Anand Vihar :

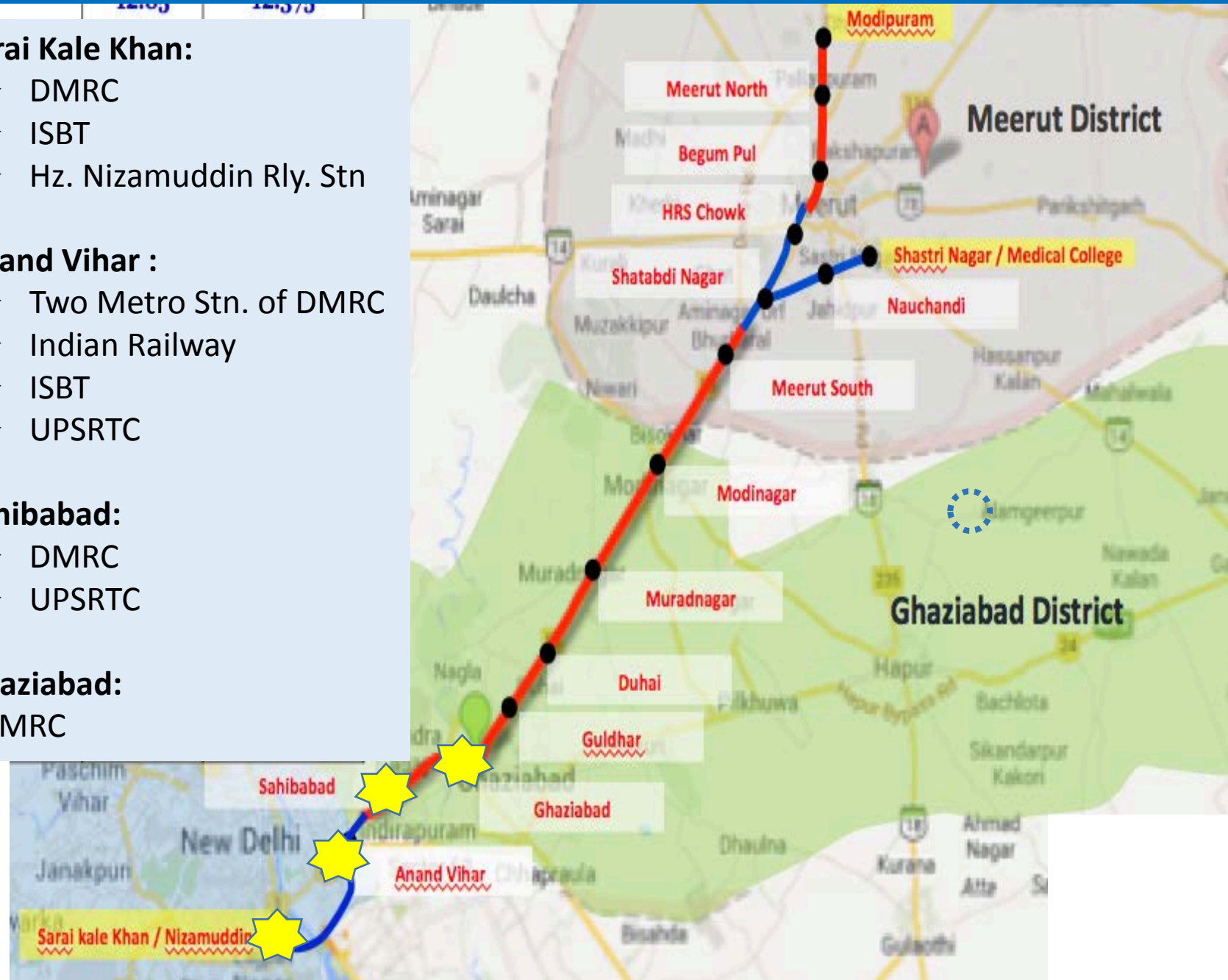
- Two Metro Stn. of DMRC
- Indian Railway
- ISBT
- UPSRTC

At Sahibabad:

- DMRC
- UPSRTC

At Ghaziabad:

DMRC

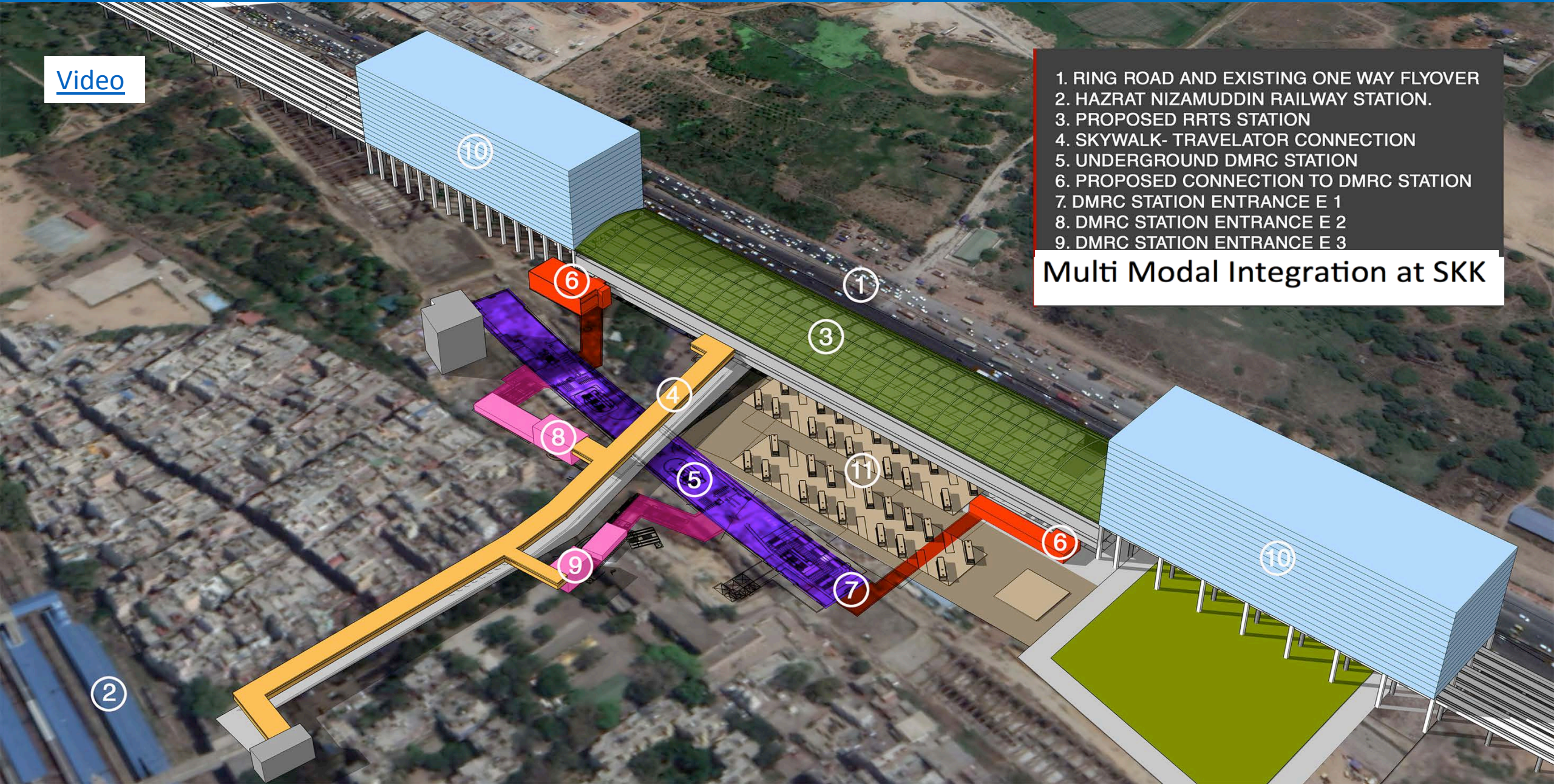


Multi-Modal integration at Sarai Kale Khan

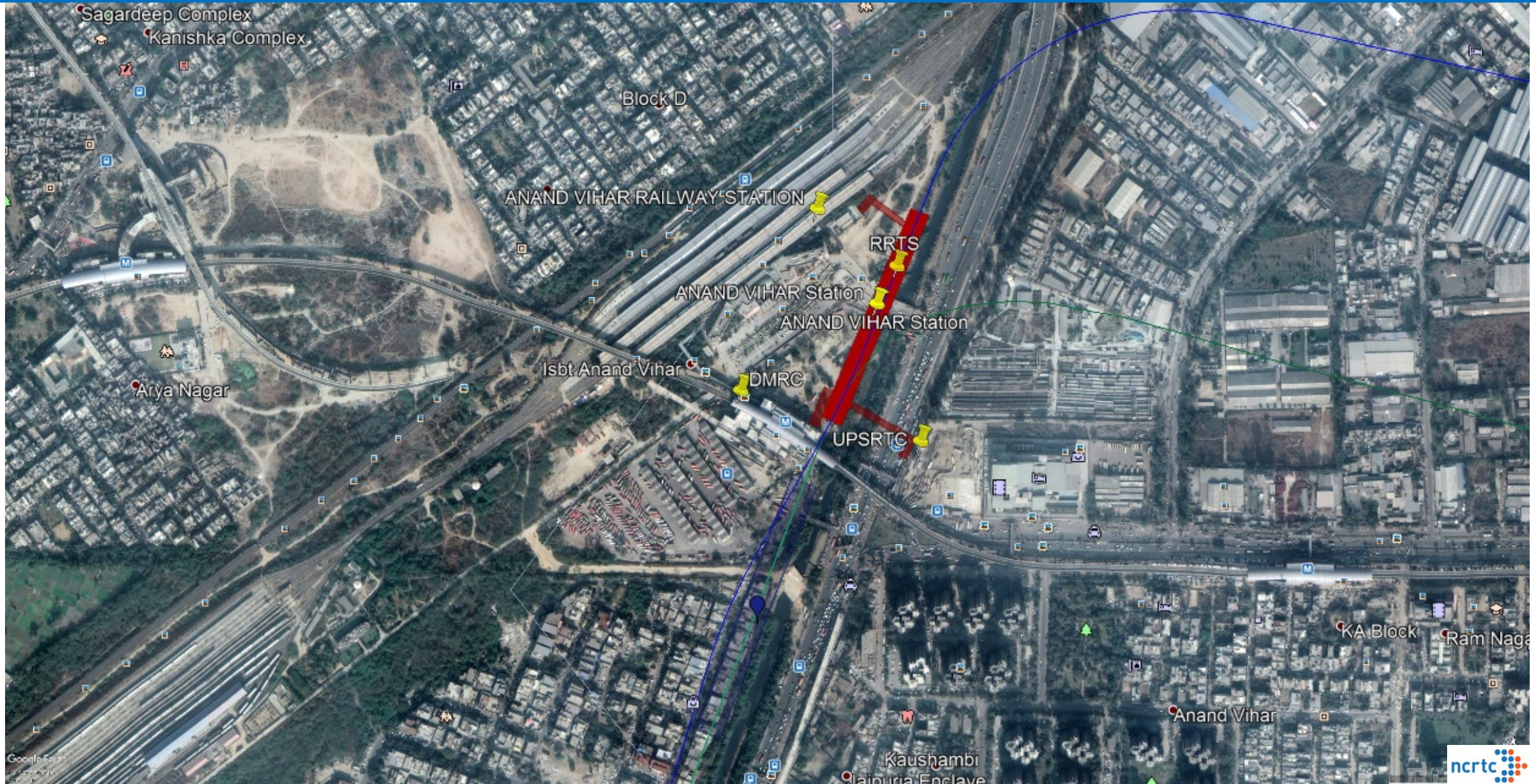
[Video](#)

1. RING ROAD AND EXISTING ONE WAY FLYOVER
2. HAZRAT NIZAMUDDIN RAILWAY STATION.
3. PROPOSED RRTS STATION
4. SKYWALK- TRAVELATOR CONNECTION
5. UNDERGROUND DMRC STATION
6. PROPOSED CONNECTION TO DMRC STATION
7. DMRC STATION ENTRANCE E 1
8. DMRC STATION ENTRANCE E 2
9. DMRC STATION ENTRANCE E 3

Multi Modal Integration at SKK



Multi-Modal Integration at Anand Vihar



Land Value Capture: Delhi – Meerut RRTS Corridor

Detailed Project Report, 2016



Engagement with Authorities



1

Sale of Additional FAR

2

Additional Stamp Duty

3

Development Fee

4

TOD Cess

5

Betterment Charges

6

Development of new areas / patches

Innovative LVC instruments globally

1

London Crossrail

- **LVC Instrument:**
Business Rate Supplement (BRS)
to internalize the windfall surpluses of land value
- **Regulatory Framework:**
 - Business Rate Supplements Act 2009 (the 'BRS Act')
 - Grants power to the Mayor of Greater London Authority (GLA)
- **Mechanism:** GLA to raise loans, BRS will be used to repay loans

2

Hong Kong MTR

- **LVC Instrument:**
 - **Rail + Property Model**
 - **Additional FAR**
- **Regulatory Framework:** MTR prepares Comprehensive Development Area zoning
- **Mechanism:**
 - MTR gets the land at pre-rail prices (nominal rate) from the government, and
 - Sells to / jointly develops with private developers at after-rail market prices

3

New York Avenue Metro Station

- **LVC Instrument:**
Special Assessment Charge
- **Regulatory Framework:** New York Avenue Metro Special Assessment Authorization Emergency Act of 2001
- **Mechanism:**
 - The District of Columbia issued bonds to contribute funds
 - Repay bonds using the funds collected through the special assessment

NCRTC has started discussions with various Stake holders to Adopt Optimised one

Development of New Areas/Patches

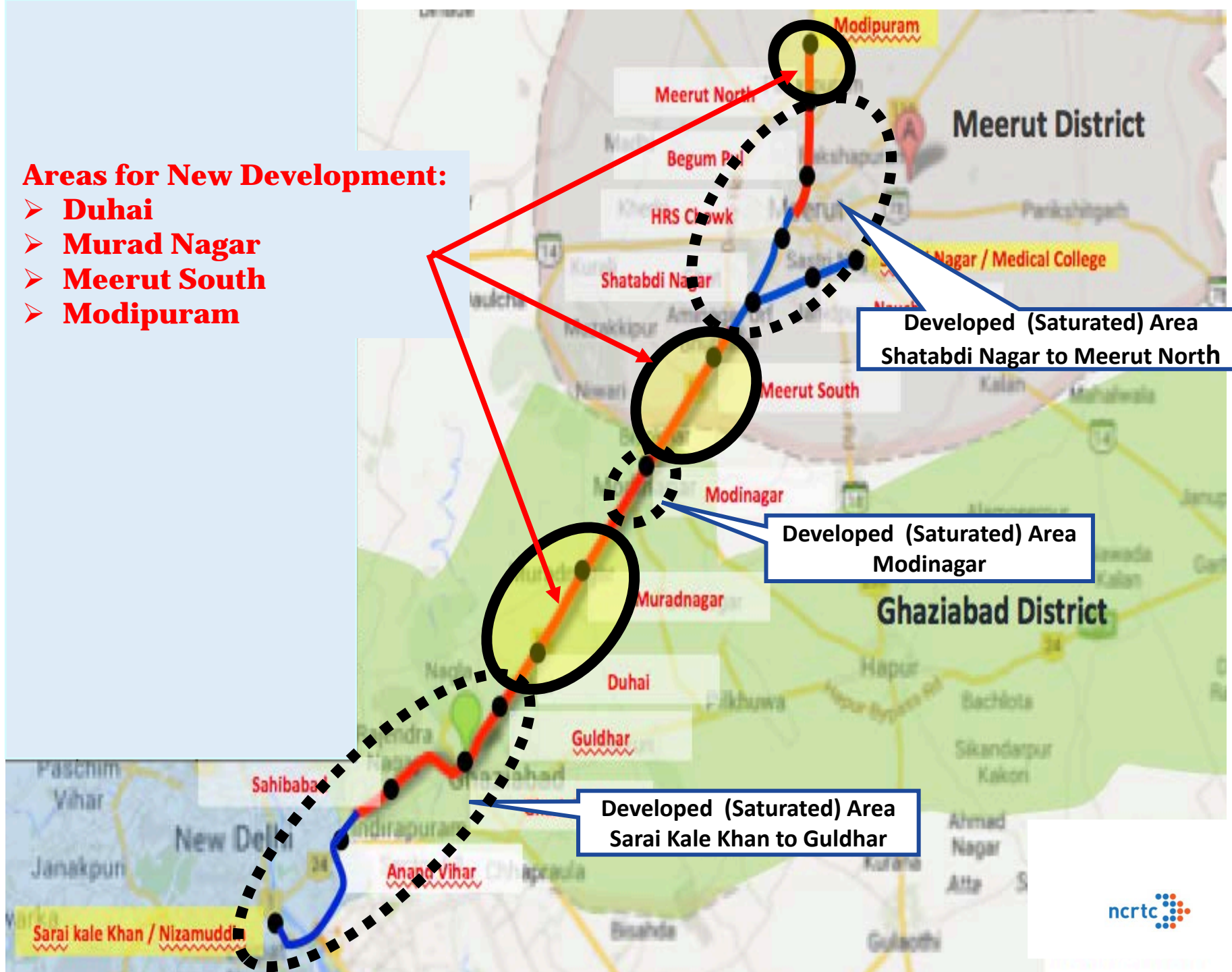
- ✓ For this Purpose **Long Term Development Policy Decision and Identification of Areas where New Development may be Plan** has been observed to be Key Factors.
For Said Purpose RRTS corridor may be Divided as below.:

- i.) Section of RRTS Corridor Already Developed** (Almost Saturated Areas Where Limited Possibility of Further Development):
- ❖ Sarai Kale Khan to Guldhar (Delhi and Ghaziabad Area)
 - ❖ Modinagar (Very Congested Area)
 - ❖ Shatabdi Nagar to Meerut North (Meerut City Area)
- ii.) Section of Corridor, Where New Development may be Planned in way of TOD & SEZ** (Transit Oriented Developments & Special Economic Zone)
- | | | |
|--|---|--|
| <ul style="list-style-type: none">➤ Duhai➤ Murad Nagar➤ Meerut South➤ Modipuram | } | Sufficient Area Available Near Vicinity of these RRTS Stations for Planning of New Developments |
|--|---|--|

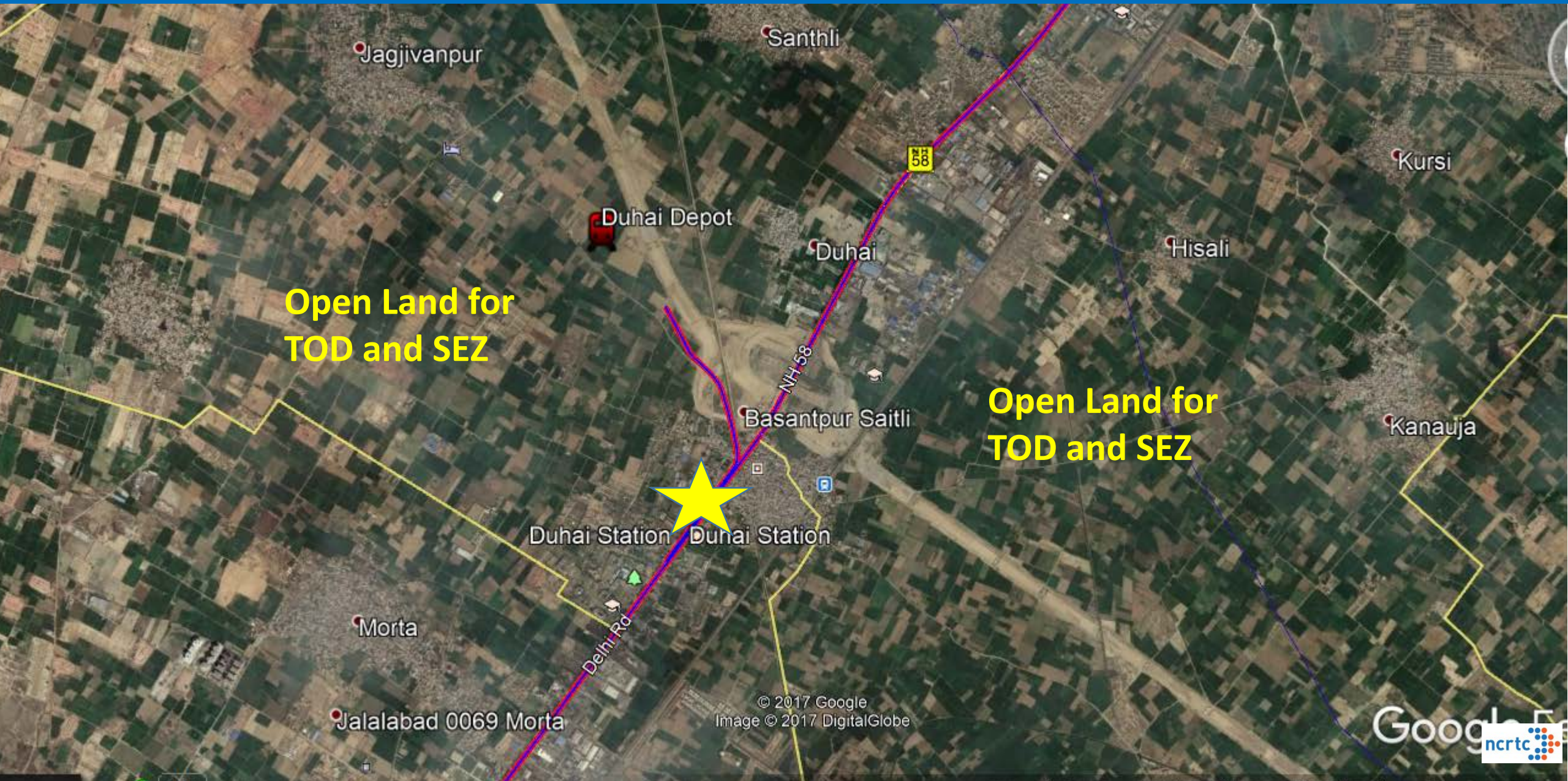
Development of Commercial & Educational Hubs and Institution Area along with compatible residential area may be a suitable choice.

Areas for New Development:

- Duhai
- Murad Nagar
- Meerut South
- Modipuram



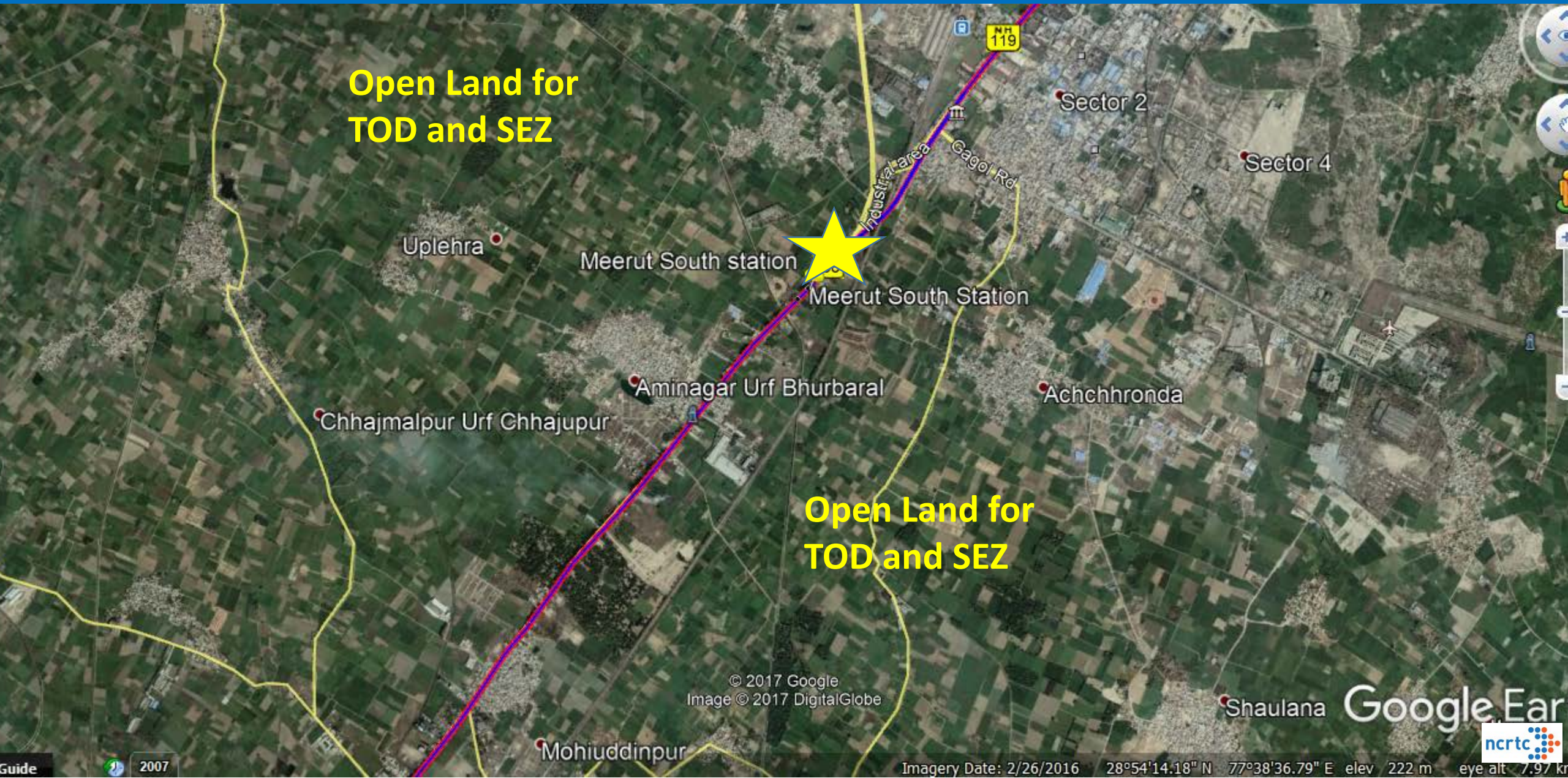
Area For New Development Around Duhai



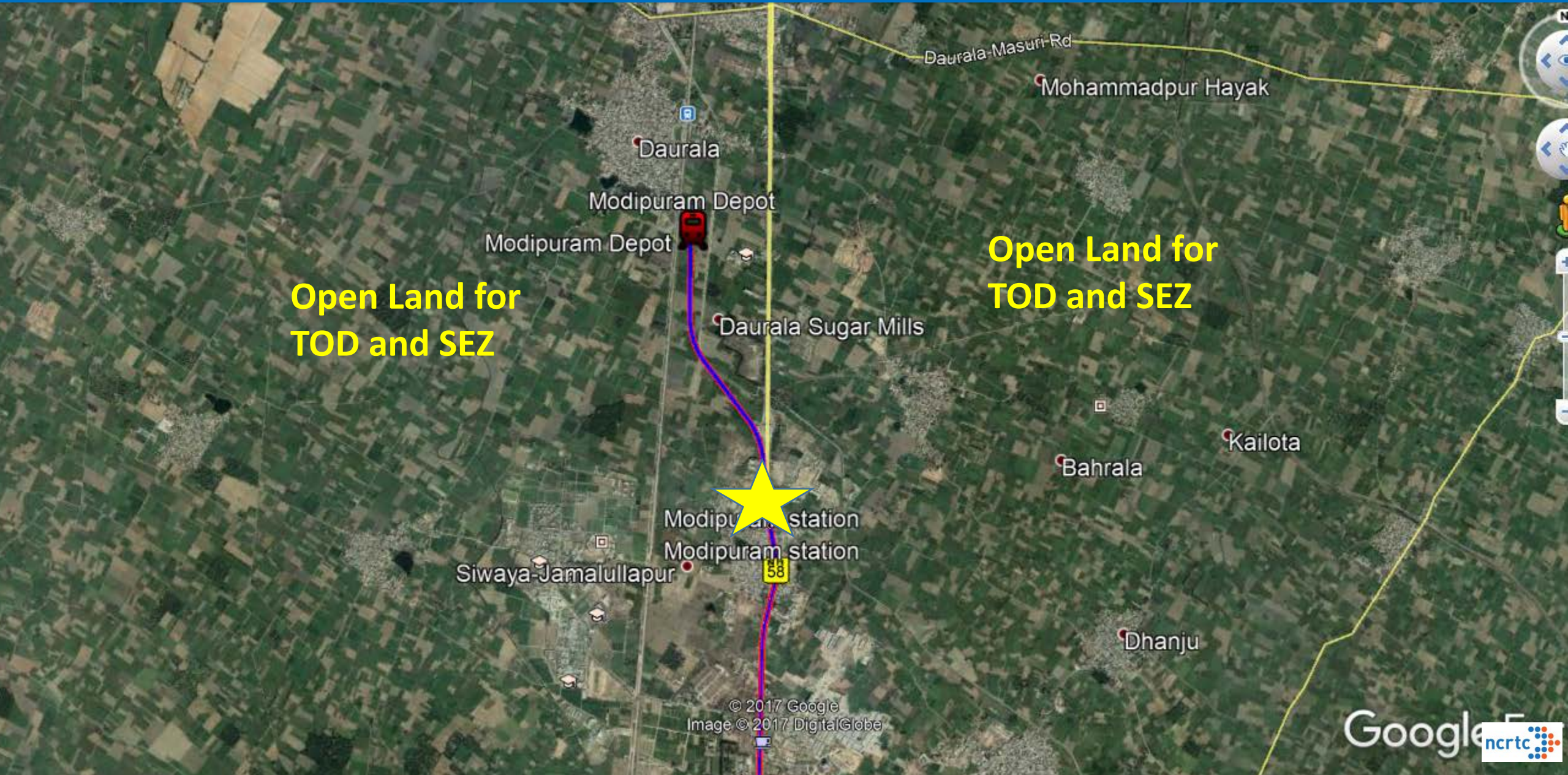
Area For New Development Around Murad Nagar



Area For New Development Around Meerut South



Area For New Development Modipuram



Conclusion

RRTS Station	Preferable Development	Suitable due to
Duhai	Commercial Hub	Located Closer to Delhi
Murad Nagar	Institutional Area	Nominal Distance from Delhi
Meerut South	Educational Hub	Distance may not be consideration due to RRTS
Modipuram	Mixed Type Development As per Required of Meerut City	Located Closure to Meerut and well connected with RRTS

Important Aspects:

- Developments should be focused on economical growth
- Last mile Connectivity to be ensure with RRTS
- Park & Ride facilities to be planned sufficiently
- Compatible Residential area to be developed near by
- Long Term Policy Decision by the Govt.
- Presently these areas are being under development in Unplanned way, to avoid this **Land acquisition process may be taken-up right now**

- **Planning should be oriented to**

Long Term Capital gain for	:	Financing of RRTS corridor
&		
Recurring Return	:	To Meet the RRTS Operational Expenses

**Recurring Return Like Permanent Source of Income Like Taxes on Oil for
Maintenance and Development of Highway and Road**

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Thank you

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