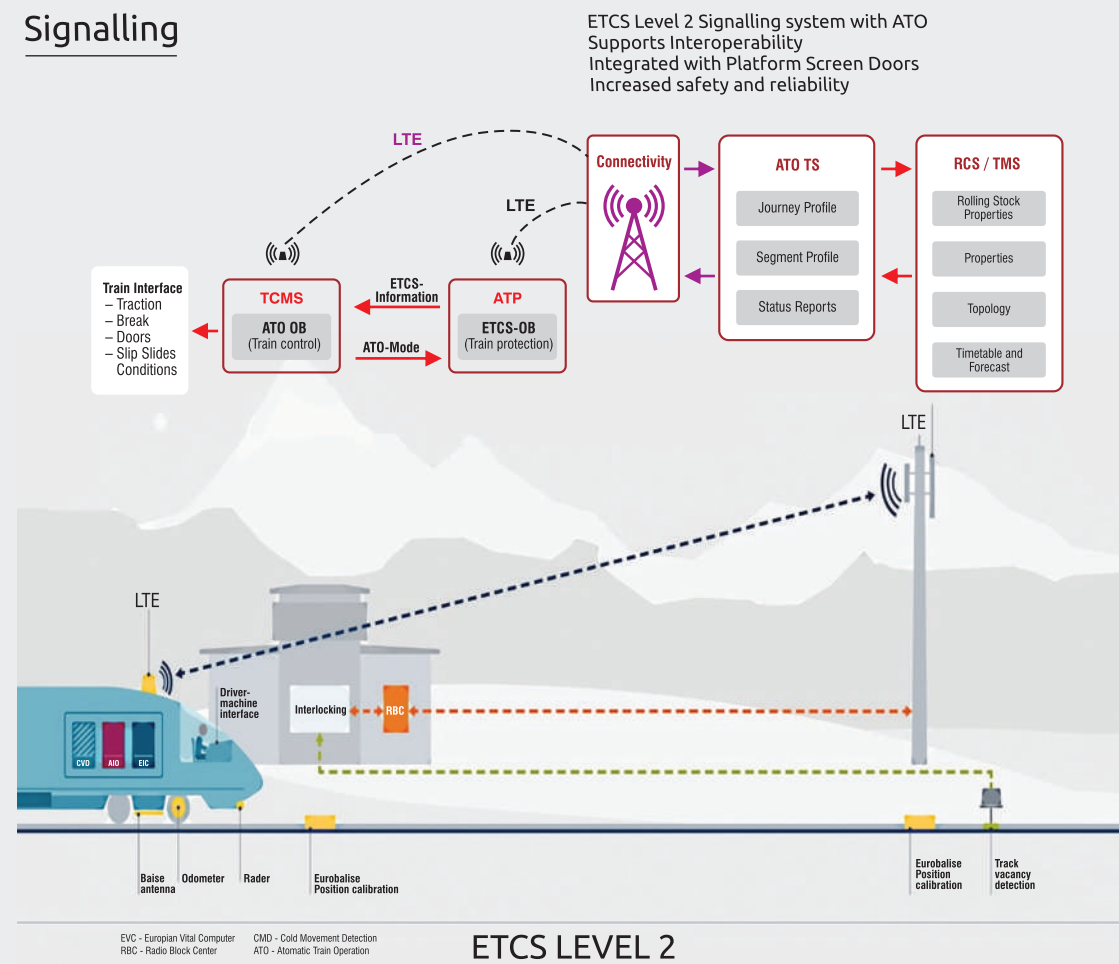


## Signalling



## Technology driven project implementation

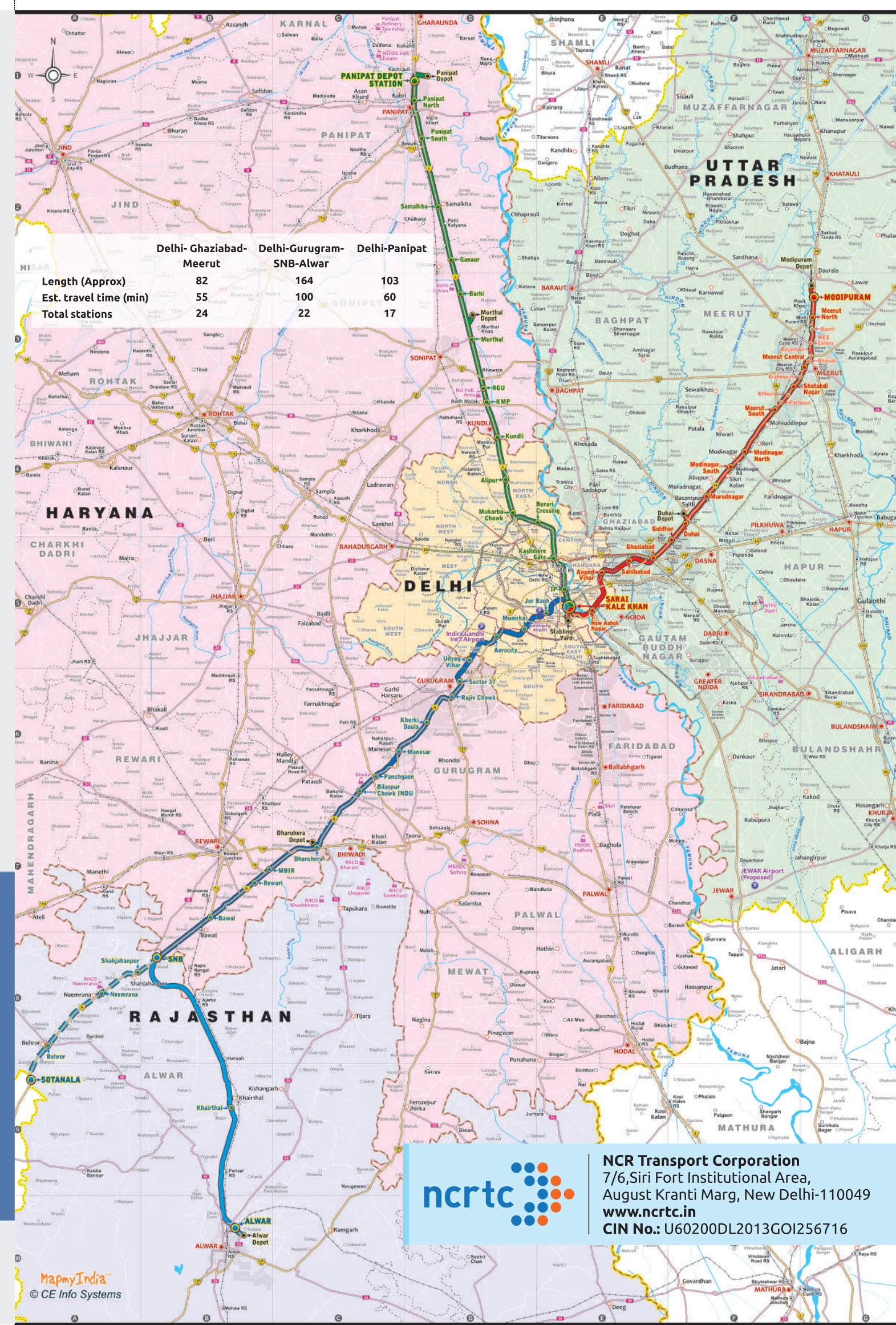
**Common Data Environment** as a single source of truth across organization (including consultants & contractors) to enable efficient project management, improves transparency. Implementation of **Building Information Modeling**.

**Internet of Things (IoT)** to send live status over LTE network for operations and maintenance.

**Condition Based Maintenance** for real time monitoring and failure prediction of equipments.

Extensive use of **Artificial Intelligence**; CCTV monitoring to ensure workers wear Personal Protective Equipment, sends alerts in case of violations; accessible through mobile phones also.

**SPEED**: An in-house IT tool for online project monitoring & risk mitigation.



## Revolutionising urban transportation

### Regional Rapid Transit System

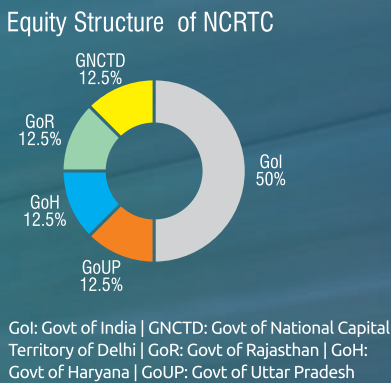


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# NCRTC

National Capital Region Transport Corporation is mandated for designing, developing, implementing, financing, operating and maintaining Regional Rapid Transit System (RRTS) projects in the National Capital Region.



## Benefits

Safe and comfortable.  
Multi-modal integration with Indian Railways, Inter-state bus terminals (ISBTs), Airports and the Delhi Metro lines at various RRTS Stations for seamless travel.  
Inter-operable corridors. Transportation backbone for NCR.  
Balanced and sustainable growth to promote polycentric growth and development.  
Industrial/commercial/educational hubs to be in reach of a larger population.  
Resulting in less migration of people to Delhi leading to reduced congestion.  
Skill development and employment generation.  
Access to affordable housing around NCR.  
Creation of new economic/industrial zones – Transit Oriented Development (TOD).  
Reduction in congestion and pollution; over one lakh vehicles to go off road after implementation of Delhi-Ghaziabad-Meerut RRTS Corridors.

## VISION

*Improve quality of life of people by providing equitable, fast, reliable, safe, comfortable, efficient & sustainable mobility solutions enabling economic development of NCR.*

## Regional Rapid Transit System (RRTS)

A rail-based, high-speed transit system aimed at bringing people and places closer in National Capital Region. Three corridors of 349 km is being implemented in Phase - I.

### RRTS IS DIFFERENT FROM METRO

	Design Speed	Operational Speed	Average Speed	Travel Time for 100 kms
RRTS	180 kmph	160 kmph	100 kmph	1 hour
METRO RAIL	90 kmph	80 kmph	32 kmph	3 hour
High frequency services - Every 5~10 min   Stations at every 5~10 km				

## Delhi-Ghaziabad-Meerut RRTS Corridor

March 2019: Foundation stone laying by Hon'ble Prime Minister of India.  
17km-long priority section to start operation by March 2023.  
Full 82km stretch scheduled for operations in March 2025.  
Over 8 lakh daily ridership.  
NCRTC to run Meerut Metro services on the RRTS infrastructure within Meerut city.

## Delhi-Gurugram-SNB-Alwar RRTS Corridor

Detailed Project Report of Delhi-Gurugram-SNB corridor has been approved by the State governments and is under active consideration of GoI. Pre-construction activities are in progress.

## Delhi-Panipat RRTS Corridor

This 103-km long corridor having 17 stations aims to connect Delhi to towns such as Gannaur, Samalkha and Panipat in the state of Haryana.

## Rolling Stock

State-of-the-art aerodynamically designed train.  
3.2 m wide, 22 m long, air-conditioned stainless steel/ aluminium body coaches for Economy and Business class passengers with automatic plug in type sliding doors.  
Panormic windows with curtains.  
Platform Screen Doors.  
Reserved Coach for Women.  
Mobile/Laptop charging sockets, CCTV.

2x2 Transverse seating, Comfortable space for standing passengers, luggage rack.  
Public Announcement & Display System.  
Emergency communication facilities.  
Dynamic route maps display.  
Ergonomically designed handrails.  
Regenerative braking system.  
Train Control & Management System (TCMS).



## Electrical Utility

Gas Insulated Substation type RSS/AMS/TSS (Voltage level - 66 kV/132kV/220kV); SCADA compliant with IEC61850.  
25 KV AC, 1-Phase, 50 Hz power for the traction.  
33 KV, 3-Phase, AC power to the Auxiliary substations.  
Uniquely designed 25kV Flexible Overhead Catenary traction systems for elevated section and exclusively designed Rigid Overhead Catenary System for tunnels with a diameter of 6.5 meter.  
Specially designed Environment Control System & Tunnel Ventilation System based on inter-station distance and tunnel diameter.  
State of the art BMS & SCADA to be used.  
Extensive use of solar panels; Green Building Design.

## Ballastless Tracks

Standard Gauge – 1435 mm.  
Specifically designed safe, reliable and durable tracks with reduced maintenance cost.  
Low vibration & noise levels.  
High resilience tracks.  
Axle Load: 17 T

