



VISION

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

 **Creating Networks**
for the Future



NCRTC

National Capital Region Transport Corporation (NCRTC) is a Joint Sector company of Govt of India and States of Delhi, Haryana, Rajasthan and Uttar Pradesh and is mandated for designing, developing, implementing, financing, operating and maintaining Regional Rapid Transit System (RRTS) projects in the National Capital Region to provide comfortable and fast transit to NCR towns and meet the high growth in transport demand.

NCRTC is an ideal example of cooperative federalism, wherein the partnership between the Centre and the four NCR states was established through a Memorandum of Understanding (MoU) signed on 29th June, 2011. NCRTC was formally incorporated on 21st August, 2013 as a Company under the Companies Act, 1956.

The ex-officio Chairman of the Board of Directors is the Secretary, Ministry of Housing and Urban Affairs (MoHUA), while all state governments are represented through nominated senior officers.





Fast

Design speed of 180 kmph
Average speed of 100 kmph
3 times faster than Metro Rail



Equitable

Inclusive urban transport
planning, social benefits for all
strata of society

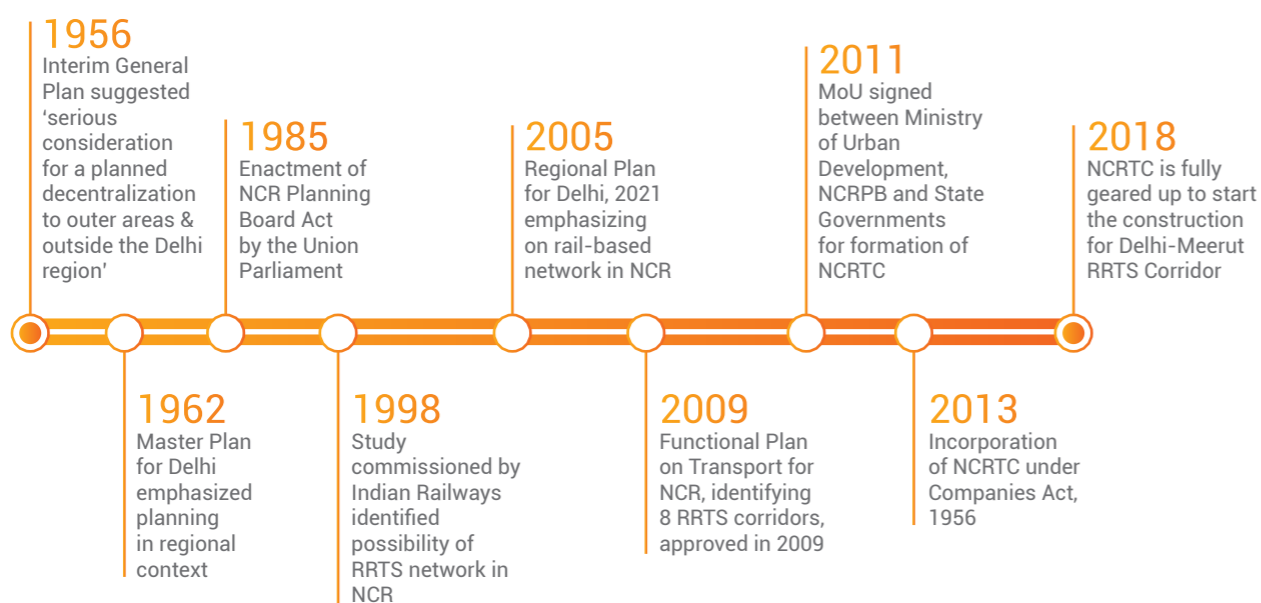


Background & History

The idea of a high speed integrated commuter railway network to connect NCR was first mooted in 1998-99 in a study commissioned by Indian Railways.

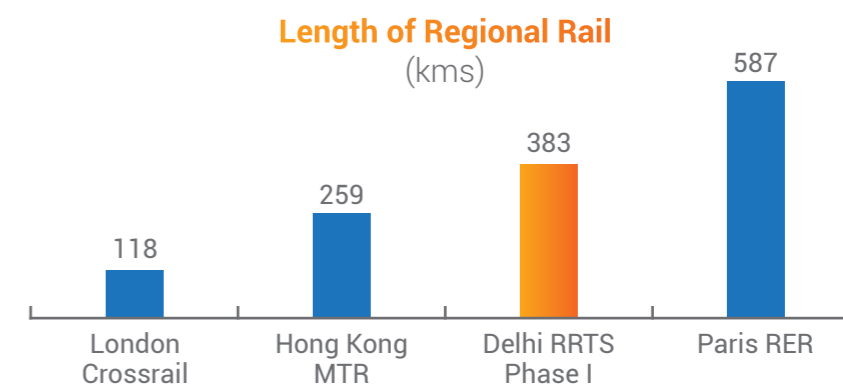
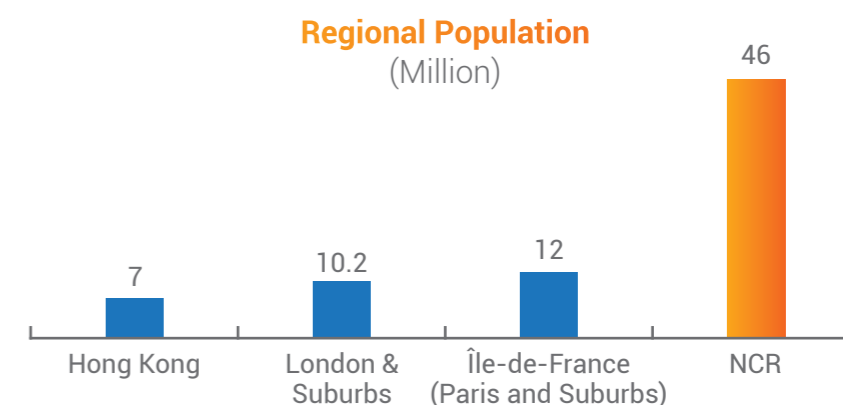
The proposal was re-examined in 2006 in the light of extensions of metro to some of the NCR towns.

The National Capital Region Planning Board (NCRPB) subsequently took up the study and recommended 8 RRTS corridors to connect NCR towns in the Functional Plan on Transport for NCR, 2032, leading to signing of MoU and incorporation of NCRTC.



National Capital Region

- Area approx. 54,000 kms
- Fastest growing population in the world – 46 million as per 2011 census
- 15 million vehicles
- 73 % commuters use personal vehicles
- 2.5 lakh vehicles is of transient nature





Reliable
High reliability of time



Safe
Safe and secure travel

Regional Rapid Transit System (RRTS): NCRTC Smart Lines

RRTS is a rail-based, high-speed transit system aimed at bringing people and places closer in National Capital Region. Once operational, NCRTC Smart Lines will act as the transportation backbone for the region, while ensuring a balanced and sustainable urban development.

RRTS IS DIFFERENT FROM METRO				
	Design Speed	Ops 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

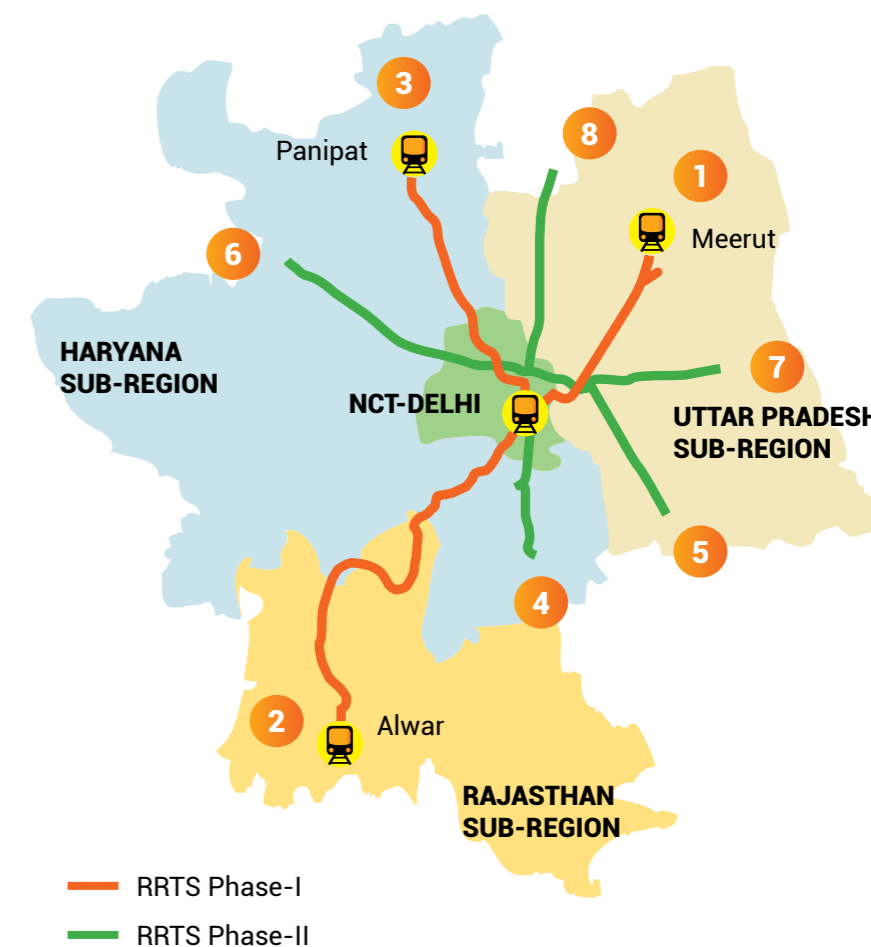
Prioritized Corridors in Phase-1

8 corridors have been identified for creating high speed NCRTC Smart Lines for operating in the National Capital Region (NCR). Out of these, 3 are prioritized in Phase 1.

The Delhi-Ghaziabad-Meerut corridor will be the first RRTS project to be implemented in India and will pave the way for similar projects in other regions of the country.

RRTS CORRIDORS IN NCR		
Prioritized Corridors in Phase - I (383.6 kms)		
1	Delhi - Sonipat - Panipat	111 km
2	Delhi - Ghaziabad - Meerut	92.6 km
3	Delhi - Gurugram - Rewari - Alwar	180 km

RRTS CORRIDORS IN NCR	
Corridors in Phase - II	
4	Delhi - Faridabad - Ballabhgarh - Palwal
5	Ghaziabad - Khurja
6	Delhi - Bahadurgarh - Rohtak
7	Ghaziabad - Hapur
8	Delhi - Shahadra - Baraut



The **fastest, safest and most comfortable** mode of travel in NCR



Comfortable

Weather conditioned coaches
for that extra comfortable travel

Sustainable



Efficient energy use
Lower emissions
Easing road congestion
Significant reduction in pollution



Benefits to Users

- High-speed, High Frequency transit between NCR nodes
- Safe and comfortable journey
- High reliability of time
- Seamless travel - Multi-modal connectivity
 - Integration with Indian Railways, Inter-state bus terminals (ISBTs), Airports and the Delhi Metro lines at various RRTS Stations
 - Inter-operability of NCRTC Smart Lines among the corridors resulting in seamless high-speed movement in NCR without interchange
- Saving time leading to improved quality of life
- Improved access to health, education and employment opportunities

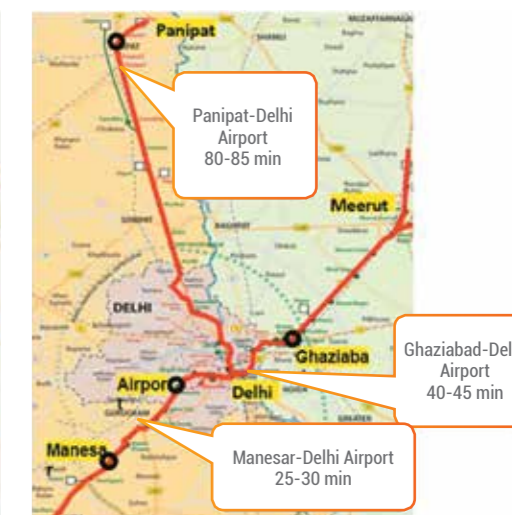
Reduction in travel time

RRTS will bring significant reduction in travel time across the region

Travel Time by Road



Travel Time by RRTS



Destinations	Travel time by Road	Travel time by RRTS
Panipat - Delhi Airport	210 Min	80-85 Min
Manesar - Delhi Airport	90 Min	25-30 Min
Ghaziabad - Delhi Airport	180 Min	40-45 Min

High Reliability

High-Speed High Frequency

Multi-Modal Connectivity

Seamless Travel

Energy Efficient

Safe & Comfortable

Employment Opportunities

Sustainable Growth

Education & Skill Development



High Frequency
Less waiting time

High Capacity
Transports large number of passengers to their destinations in shortest time



Benefits to Society

- **Balanced and Sustainable Growth**
 - RRTS will promote polycentric growth and development
 - Industrial/commercial hubs to be in reach of a larger population
 - Boosting "Make in India" potential in high technology areas.
- **Transportation backbone for NCR**
 - NCRTC Smart Lines across Delhi, Uttar Pradesh, Rajasthan, and Haryana will bring NCR closer.
 - Reduction in migration of people in Delhi due to increased connectivity.
- **Reduced vehicular congestion and pollution**
 - New paradigm where transport results in reduction in noise & pollution due to lower emissions.
 - Efficient use of energy and non-conventional resources like solar power.
- **Skill development and employment generation**
 - Benefit to working class population, labour force, industrial workers and students among others.
 - Access to affordable housing around NCR
 - Creation of new economic/industrial zones – Transit oriented development.
 - Creation of employment opportunities.

Employment Opportunities

Education & Skill Development

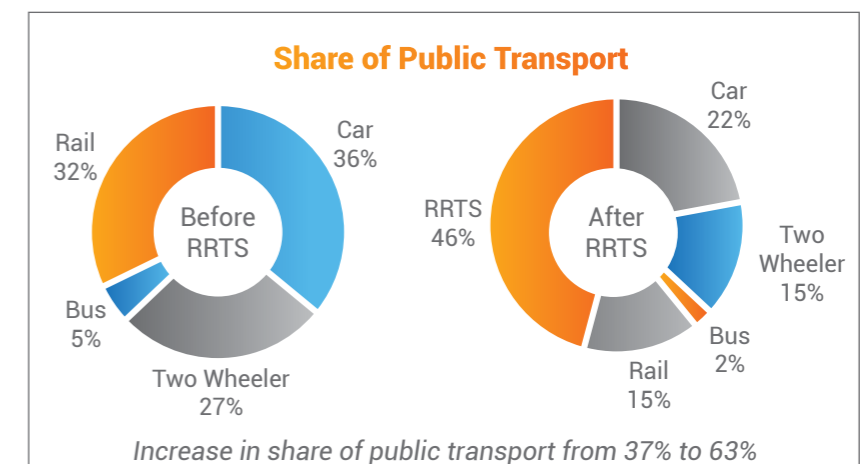
Reduction in Pollution and Congestion

Sustainable Growth

Reduction in congestion & pollution

RRTS will be a fast, pollution free public mode of transport which will significantly reduce congestion & pollution in NCR

Delhi-Ghaziabad-Meerut Smart Line



Reduction in Pollutants

Pollutant	Yearly reduction (in 000 tons)
Particulate Matter (PM)	~60
Nitrogen Oxides (NOx)	~475
Hydrocarbons (HC)	~800
Carbon Monoxide (CO)	~800

Significant reduction in pollutant emissions

Resulting in an Economic Internal Rate of Return (EIRR) of more than 19%

Multi-Modal Connectivity

Energy Efficient



Land Value Capture (LVC)

Augmenting revenue sources and enhancing densification in the region

Universal Accessibility

Priority seating



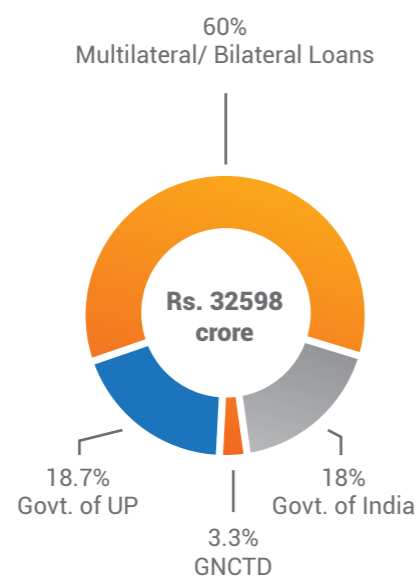
Corridor Highlights

Delhi-Ghaziabad-Meerut Smart Line

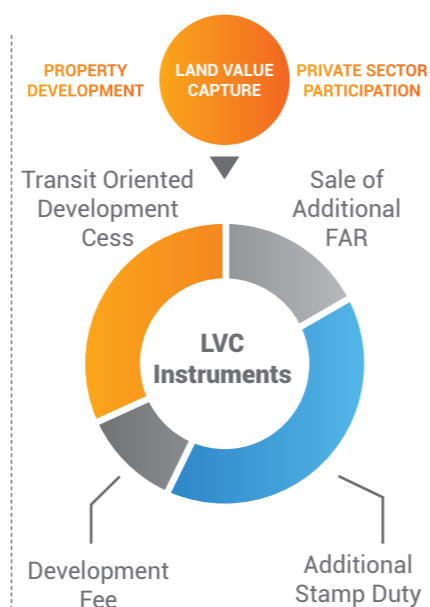
The Delhi-Ghaziabad-Meerut Smart Line will be going to pass through one of the most densely populated sections of the National Capital Region. Starting from Sarai Kale Khan in Delhi, the corridor will go up to Modipuram in north of Meerut city, joining many urban nodes such as Sahibabad, Ghaziabad, Murad Nagar, Modi Nagar together with high speed connectivity.

The daily ridership on this corridor is expected to be more than 7.95 lakh passengers by the year 2024.

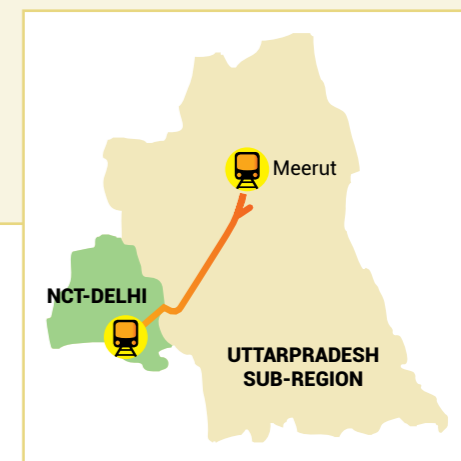
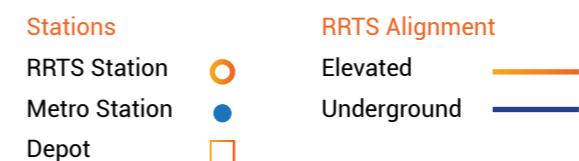
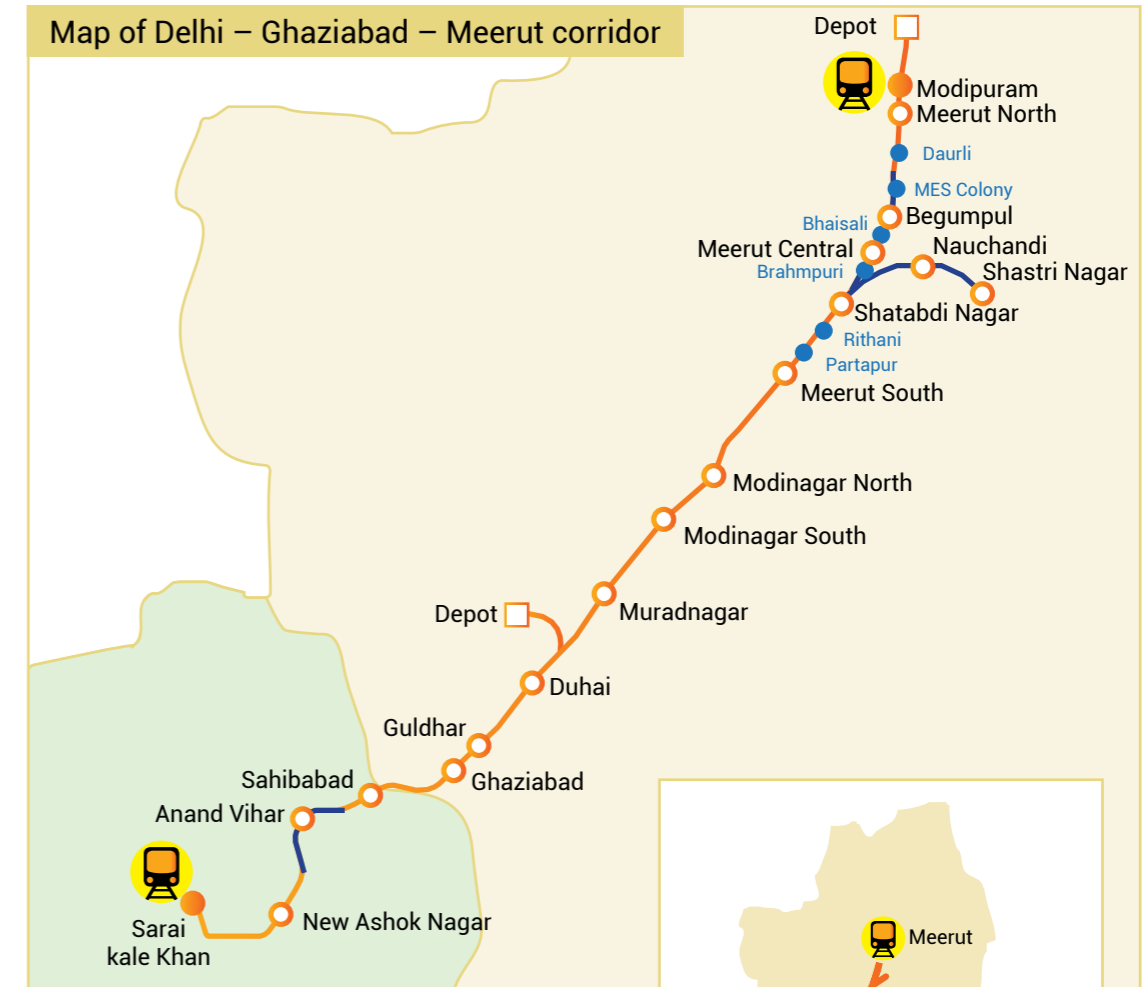
Project Cost & Funding



Innovative Revenue Sources



Map of Delhi – Ghaziabad – Meerut corridor





Integrating National Capital Region

Bringing cultures together

Weather Proof

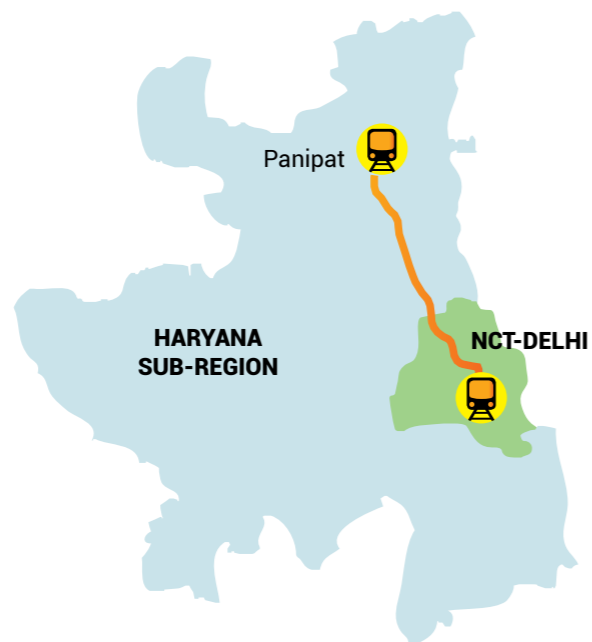
Equipped to run on time even during adverse climatic conditions



Delhi-Sonipat-Panipat Smart Line

Moving towards north-west direction from Delhi, this Smart Line will connect Delhi to towns like Sonipat, Gannaur, Samalakha and Panipat in Haryana. Sarai Kale Khan will be the originating and interoperable point of this line and it will go through New Delhi Railway Station and Kashmere Gate ISBT before moving towards Panipat.

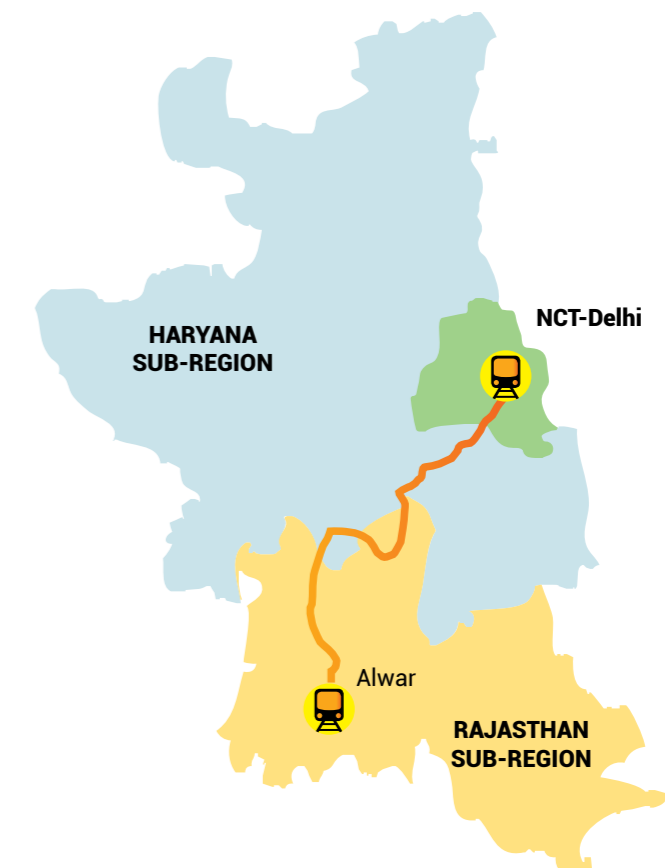
Since the region is populated with large number of educational and hospitality institutions, this RRTS corridor has significant potential to act as a catalyst for growth and regional development. Not only will the Smart Line cut down travel time significantly, it will also boost the skill development and employment opportunities in conson.



Delhi-Gurugram-Rewari-Alwar Smart Line

Passing through industrialized areas of Haryana up to Rajasthan, this Smart Line will benefit the entire region between Gurugram to Alwar, while increasing the productivity of a large number of commuters traveling from Delhi and Gurugram to regions in Manesar, Bawal and Neemrana.

This line will also originate from Sarai Kale Khan and after crossing Dhaula Kuan and Mahipalpur in Delhi, will move towards Alwar in Rajasthan via Gurugram, Dharuhera and Rewari.





User Friendly System
 Seamless movement, IT enabled seamless information system

Saving LandSpace
 Catalyst for growth, driver of regional development



System Specifications of Phase I

Parameters	Delhi – Meerut	Delhi – Panipat	Delhi – Alwar
Total Length (km)	92.60	111	180
Estimated travel time (min)	62	74	117
No. of total stations	26	12	19

383
kms

600
Coaches

6
Depot

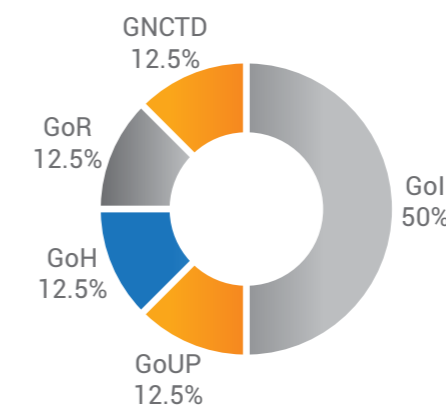
2 Million
daily ridership

System Specifications of Phase I

Parameters	Specifications
No. of Tracks	Two (Ballastless Track)
Track Gauge	Standard Gauge- 1435 mm
Axle Load	17 T
Rolling Stock	Aerodynamic, 3.2 m wide 22 m long, stainless steel/aluminium body
Seating arrangement	Transverse - Aeroplane type
Class of accommodation	Economy Business (one coach per train)
Traction power	1 x 25 KV AC overhead catenary type
Signalling	CATC

Equity and Legal Framework

Equity Structure of NCRTC



The equity structure of NCRTC is broadly similar to other metro companies in which the equity participation of Government of India and participating states is in the ratio of 50:50.

Legal framework

NCRTC will take up the development of the RRTS network in NCR under the legal cover of the Metro Railways (Construction of Works) Act (1978) and the Metro Railways (Operation and Maintenance) Act (2002) as amended through the Metro Railways (Amendment) Act (2009).

- GNCTD - Government of National Capital Territory of Delhi
- GoR - Government of Rajasthan
- GoH - Government of Haryana
- GoUP - Government of Uttar Pradesh
- GoI - Government of India



Multi Modal Integration

Seamless integration with rail, road and air

Board of Directors

1	Shri Durga Shanker Mishra Secretary Ministry of Housing & Urban Affairs	Chairman
2	Shri Bijay Kumar Tripathi Member Secretary National Capital Region Planning Board	Director
3	Shri Manoj Kumar Additional Secretary Ministry of Housing & Urban Affairs	Director
4	Shri Rajesh Aggarwal Executive Director, Works & Planning Ministry of Railways	Director
5	Shri Arun Kumar Gupta Principal Secretary, Town & Country Planning and Urban Estates Department Government of Haryana	Director
6	Shri Anshu Prakash Chief Secretary Government of NCT-Delhi	Director
7	Shri P Guru Prasad Transport Commissioner Government of Uttar Pradesh	Director
8	Shri Rajeeva Swarup Additional Chief Secretary (Ind & DMIC), Government of Rajasthan	Director
9	Shri Vinay Kumar Singh	Managing Director

Similar Global Examples

Crossrail
(London)

Increment in property capital values of 10% - 25%, around stations

California High Speed Rail Authority
(USA)

Phase 1 Blended expected to create employment of 66,000 jobs (approx.) annually

MTR
(Hong Kong)

Kwun Tong Line Extension - 19,000 tons of CO₂ emissions avoided per year

RER
(Paris)

Improved transportation landscape and quality of life of Paris & its suburban citizens since 1970's

KTX
(South Korea)

Changed living pattern of the citizens of Korea (e.g. increase in long distance commuters)

TX
(Tokyo)

Tsukuba Express Line developed to promote industrial, commercial & regional development along the line

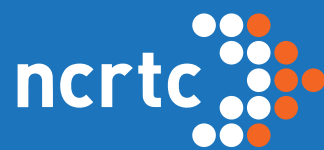
Panipat

Meerut

Delhi



Alwar



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