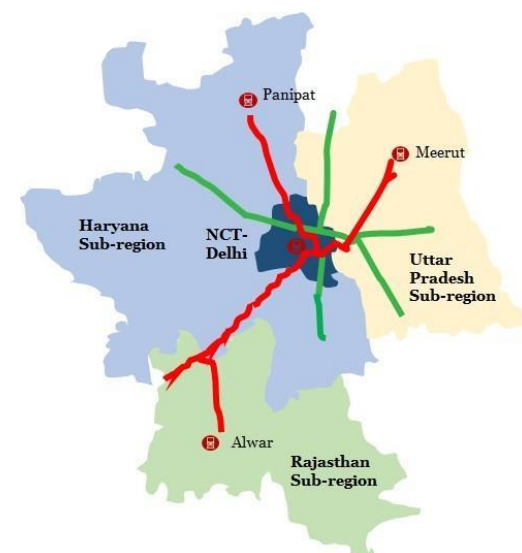
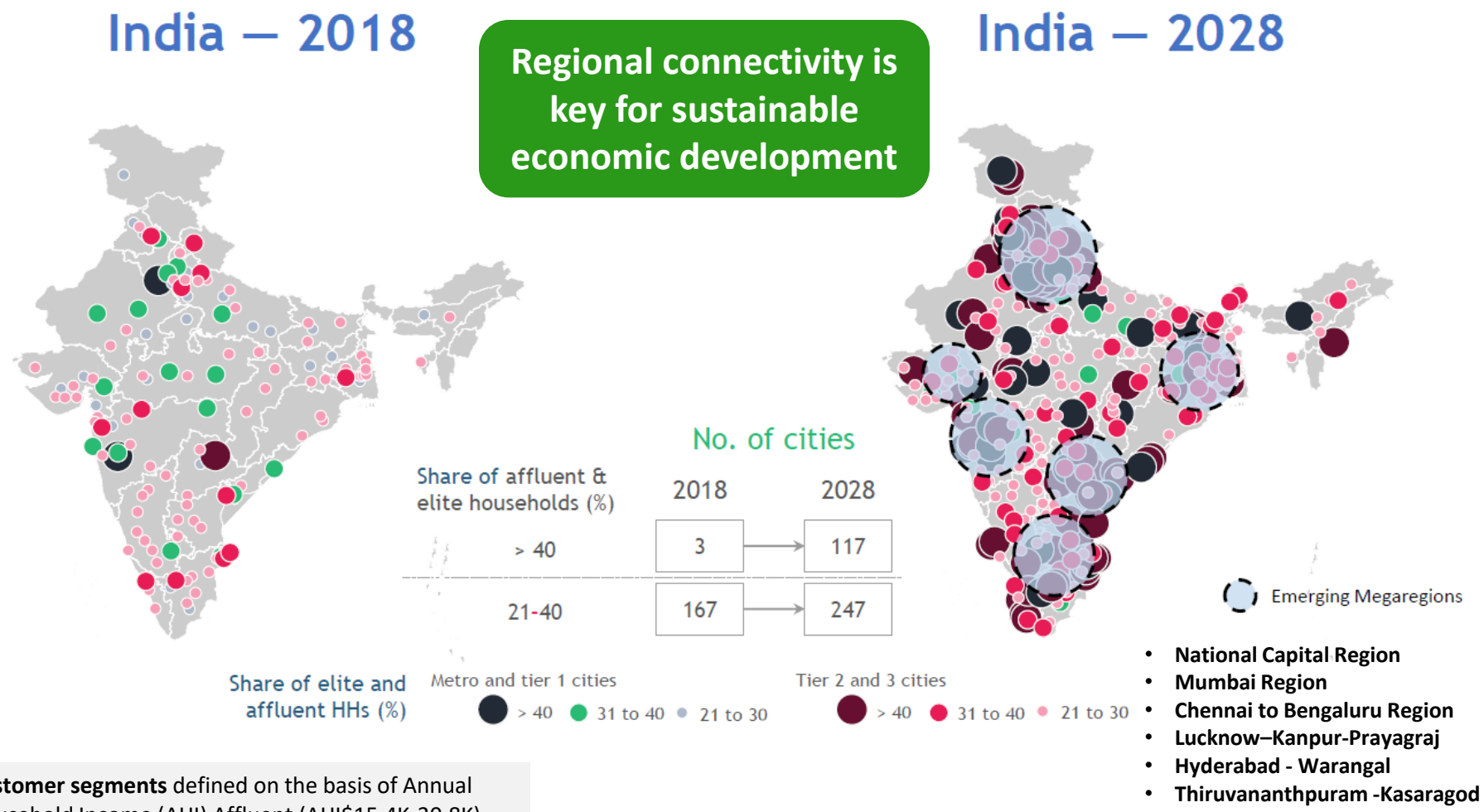




ECONOMIC DEVELOPMENT AND URBAN MOBILITY ROLE OF REGIONAL TRANSIT



MEGAREGIONS WILL DRIVE THE GROWTH OF THE COUNTRY



Customer segments defined on the basis of Annual Household Income (AHI) Affluent (AHI\$15.4K-30.8K), Elite (AHI>\$30.8K)
Source: CCI City Income Projections 2018, analysis

INADEQUATE REGIONAL MOBILITY – CONSTRAINING ECONOMIC GROWTH



■ Unmanageable Urban Sprawl

- Lacking Regional Public Transport – low frequency – lack of integration - Multiple interchanges

■ Pollution:

- 40% increase in vehicular pollution - 2010 & 2018
- Road vehicles contribute as high as 41% of pollution
- Vehicles from NCR contribute 40%-50%

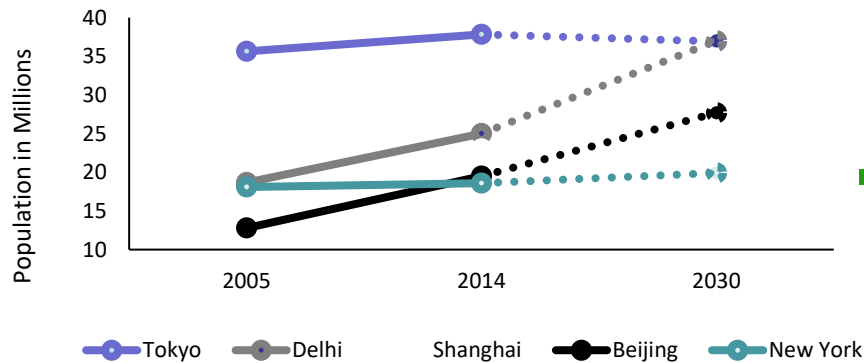
■ Congestion

- Vanishing off-peak hours; 63% share of Private Transport

■ Accidents

- In 2019 – highest # of deaths in Delhi – 1463
(highest among cities with 50 million+ population)

Population trend of mega cities in World



MULTIMODALITY

- NEED FOR NETWORK OF NETWORKS

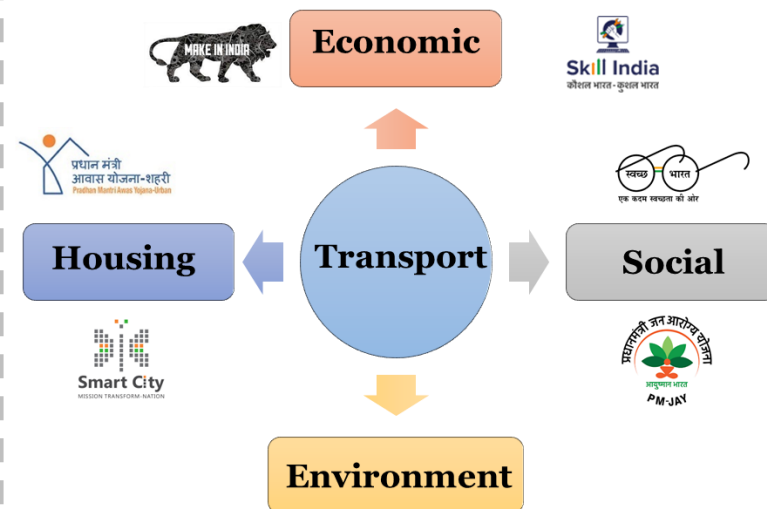
Comprehensive Mobility Network

National Level	<ul style="list-style-type: none"> Indian Railways Airlines High-Speed Rail
Regional Level	<ul style="list-style-type: none"> RRTS Commuter/Passenger Trains Buses
City Level	<ul style="list-style-type: none"> Bus Rapid Transit Metro Rail Transit City Buses
Last Mile	<ul style="list-style-type: none"> Intermediate Para-Transit (IPT) – e-rickshaw, shared auto, Electric cycle Feeder Buses

Approach Needed: Network of Networks

Similar to regional rail systems implemented across the mega-regions of the world – Paris, Tokyo, Seoul, Beijing, Madrid

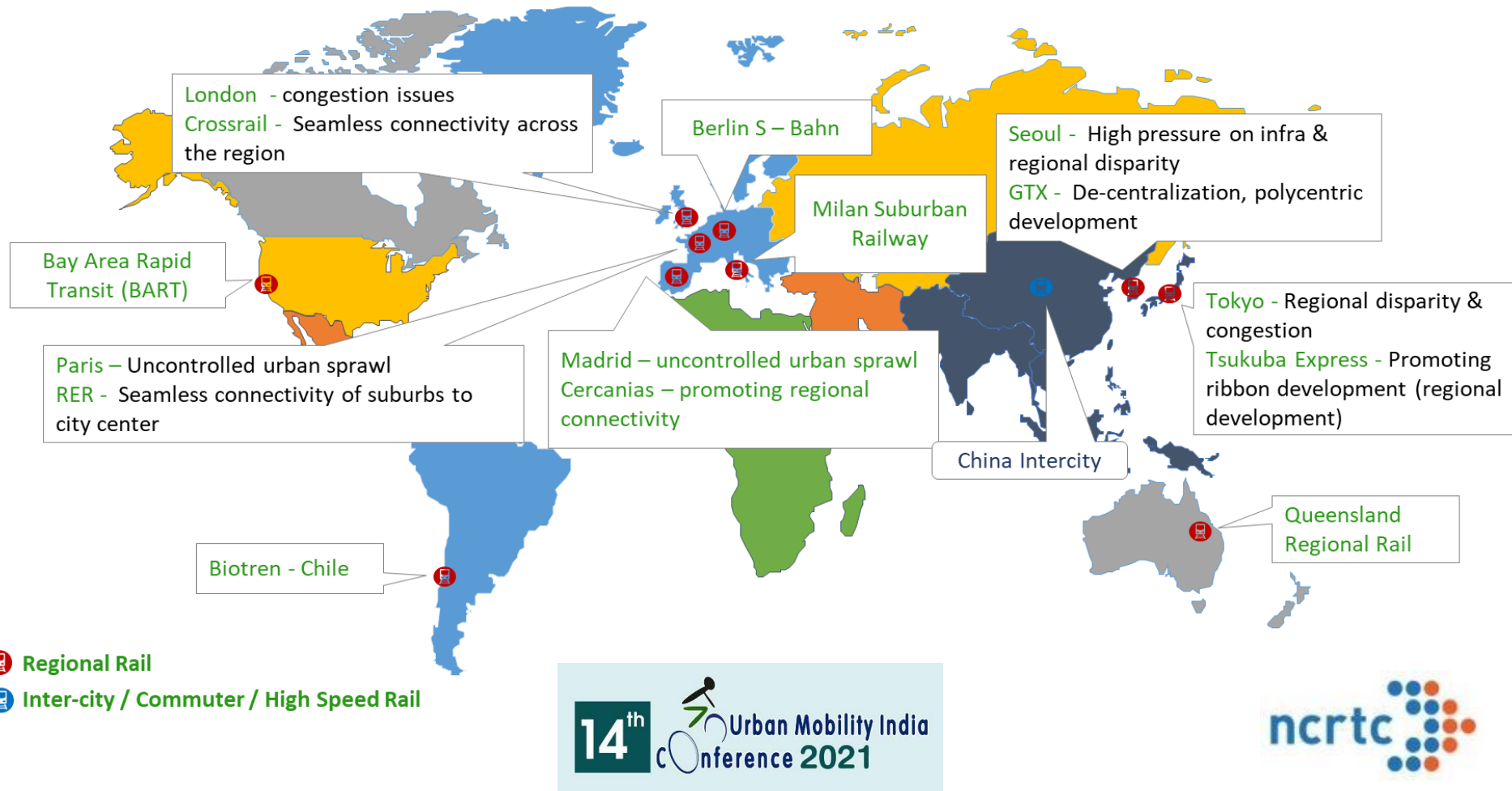
Regional perspective in planning is the key



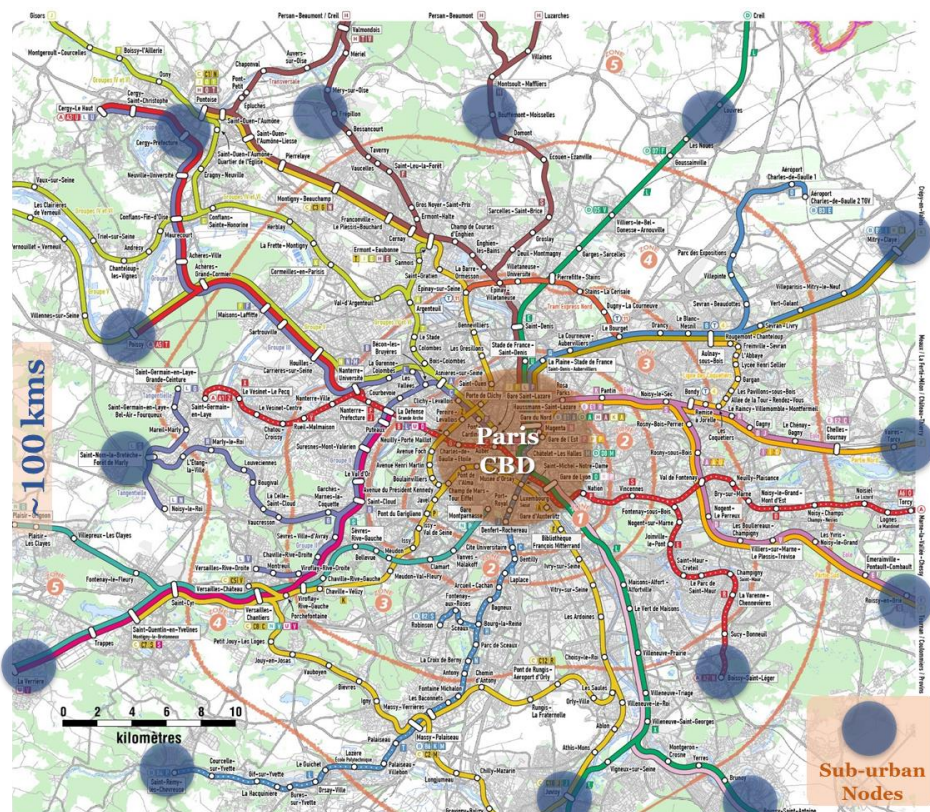
Integrated Transport enables sustainable development

REGIONAL RAILS – TRANSPORT SOLUTION ADOPTED BY MEGA CITIES

Regional rails are transforming living patterns around economic epicenters – enabling daily commute from sub-urban towns



NETWORK OF NETWORKS - PARIS METROPOLITAN REGION



Regional Express Rail
587 kms 257 stations



Metro
216.5 kms 384 stops



Tramway
95 kms 148 stations



Buses
347 lines 12,500 stops

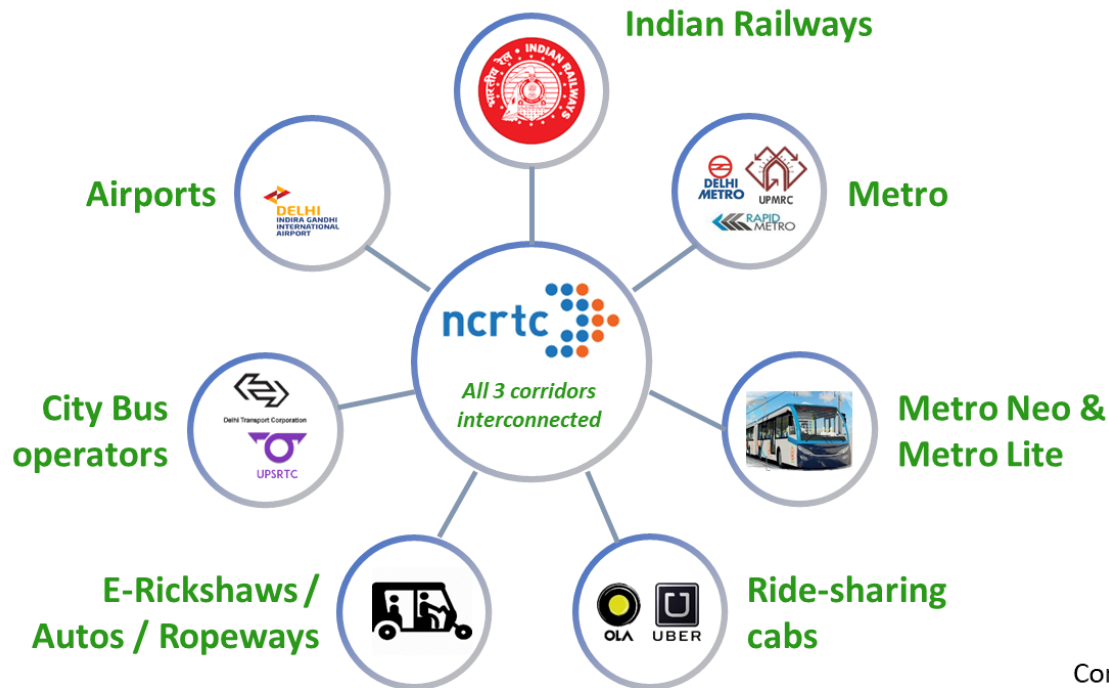
Regional Express Rails connect sub-urban centers to multi-modal grid of Paris CBD

Connecting multiple modes transportation network of Paris CBD area to sub-urban modes through RER

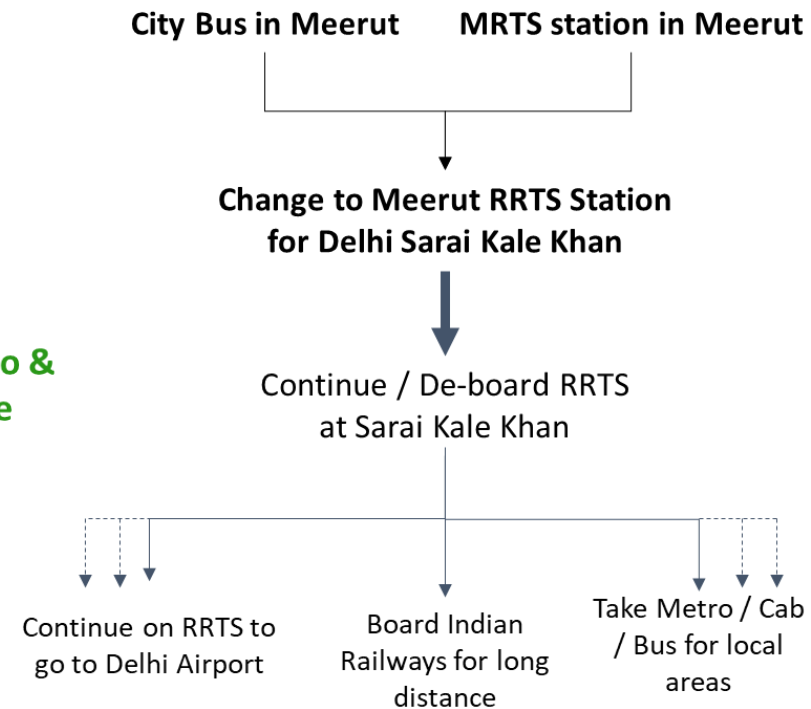
Regional rails can transform economies & lives of people enabling inter-connected clusters to develop as a vibrant, dynamic whole, greater than sum of its parts

MULTIMODAL INTEGRATION – FOCUS ON ACCESS

All 3 RRTS corridors interconnected & planned to be integrated with other transport modes...



...Allowing customers to travel seamlessly across the region



HARNESSING PRIVATE SECTOR PARTICIPATION TO BRING EFFICIENCIES...



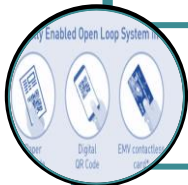
Procurement of Rolling Stock

Bundling of supply contract with maintenance



O&M Private Operator

Engaging a private O&M operator on long-term contract basis



Automatic Fare Collection System

Procurement through Hybrid Annuity Model



Non-Fare Box Revenue

Running regional urban-freight trains during lean operations period

AATMANIRBHAR BHARAT



Promoting Make in India (MII) - Integral strategy of NCRTC from planning stage



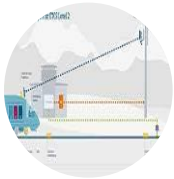
Rolling Stock

100% trainsets being manufactured at Savli, Vadodara



Track Structure

*- Precast slab track and purchased IPR
- Installation being done by L&T*



Signalling & Telecommunication

Package kept out of ADB funding to incorporate MII guidelines, 50% min. local content



Indigenisation of PSD - Collaboration with BEL

Joint Development of Platform Screen Door (PSD) system with BEL – prototype ready

Delhi – Meerut RRTS implementation achieving ~92.5% local content

EFFECTIVE UTILIZATION OF INFRASTRUCTURE – URBAN FREIGHT

- Commuter services - defined morning & evening peaks - lean capacity in off-peak hours
- **Lean capacity** - utilised to offer logistics services for 'urban freight' – additional source of revenue – **improved sustainability**
- NCRTC through ADB, undertook detailed study and the findings of the study are encouraging



EMPOWERING LOCAL GOVERNMENTS

NCRTC coordinating with Development Authorities – Delhi, Ghaziabad & Meerut

Corridor Level strategy

Promoting a vision for diversity of land uses along the corridor

TOD Based Planning

Coordinate in delineating and TOD Zones

Regulatory Framework

International expertise from ADB assisting local Govt. in updating Acts, Rules & Policies

Financial Sustainability

Using Innovative methods including VCF

Capacity Building

Capacity building of stakeholders from State Govt. & development Authorities

Multi-modal Hubs

At Locations - Presence of multiple transit agencies

Q&A



Thank You