

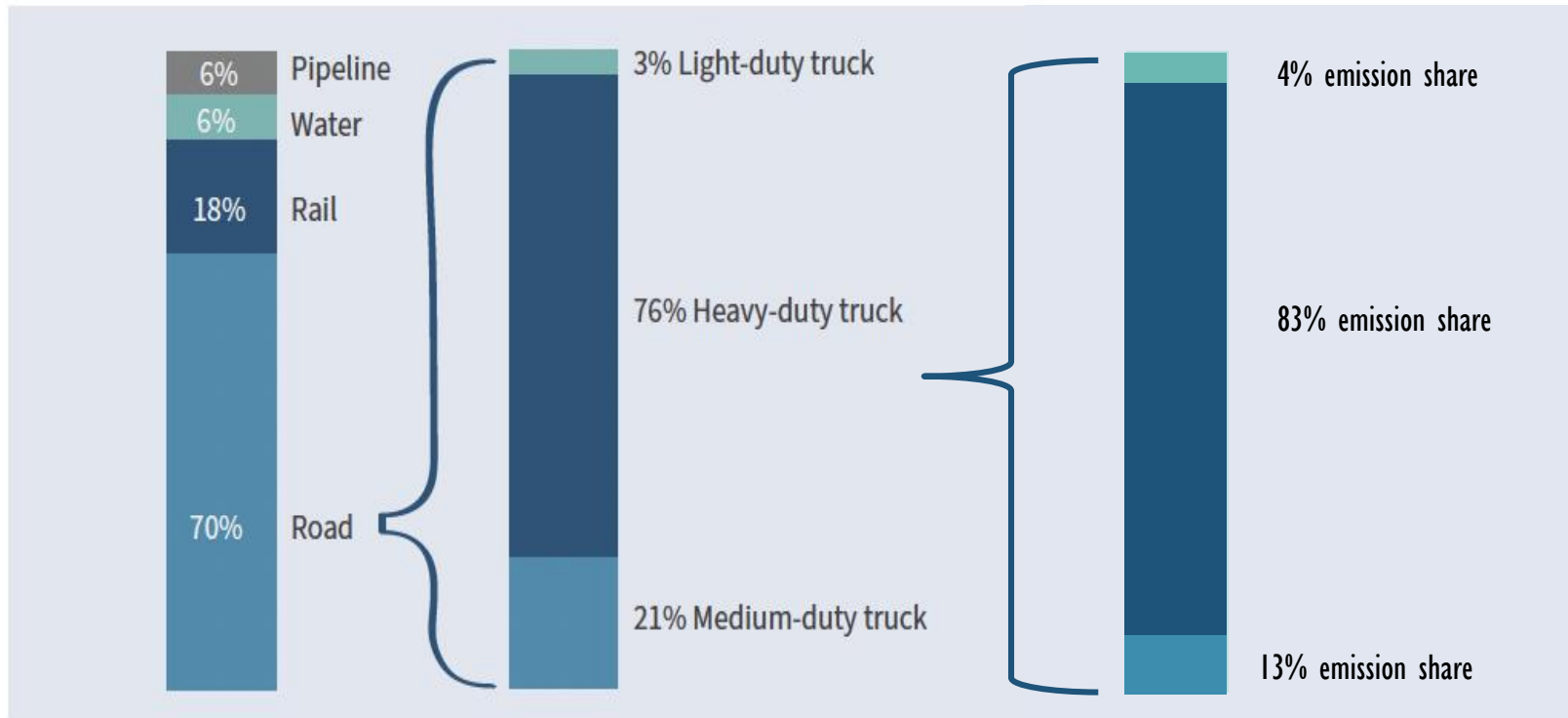


URBAN FREIGHT: ADVANCING NET ZERO GOALS THROUGH ZEV TECHNOLOGIES



Why is Freight important?

- 80 billion litres of diesel (90% of total)
- 213 Mt CO₂ emissions (10% of India's total)
- Road freight ~90% of total freight emissions
- Freight demand to grow by over five times in the next three decades



Modal split for freight movement in India in 2022 (% of tonne km)

Source : NITI Aayog, RMI, *Transforming Trucking In India: Pathways to Zero Emission Truck Deployment*, September 2022
CSTEP, *The Potential to Electrify Freight Transportation in India*, 2022

Key challenges in electrifying freight

BARRIERS

Manufacturing

- High purchase cost
- High import duties on components
- Low energy and power density of batteries

Awareness and Adoption

- Range anxiety
- EV technology apprehension
- Limited products available
- Lack of awareness

Charging Infrastructure

- Lack of Charging infrastructure
- Limited access to grid
- Long waiting time for charging

POLICY ENABLERS

- Fiscal incentives to OEMs
- Supply-side plan for transition to ZET
- Government standards and regulations

- Awareness and advocacy programs
- Pilots generating success stories

- Establishing a strong network of Charging infrastructure
- Smart grid regulations

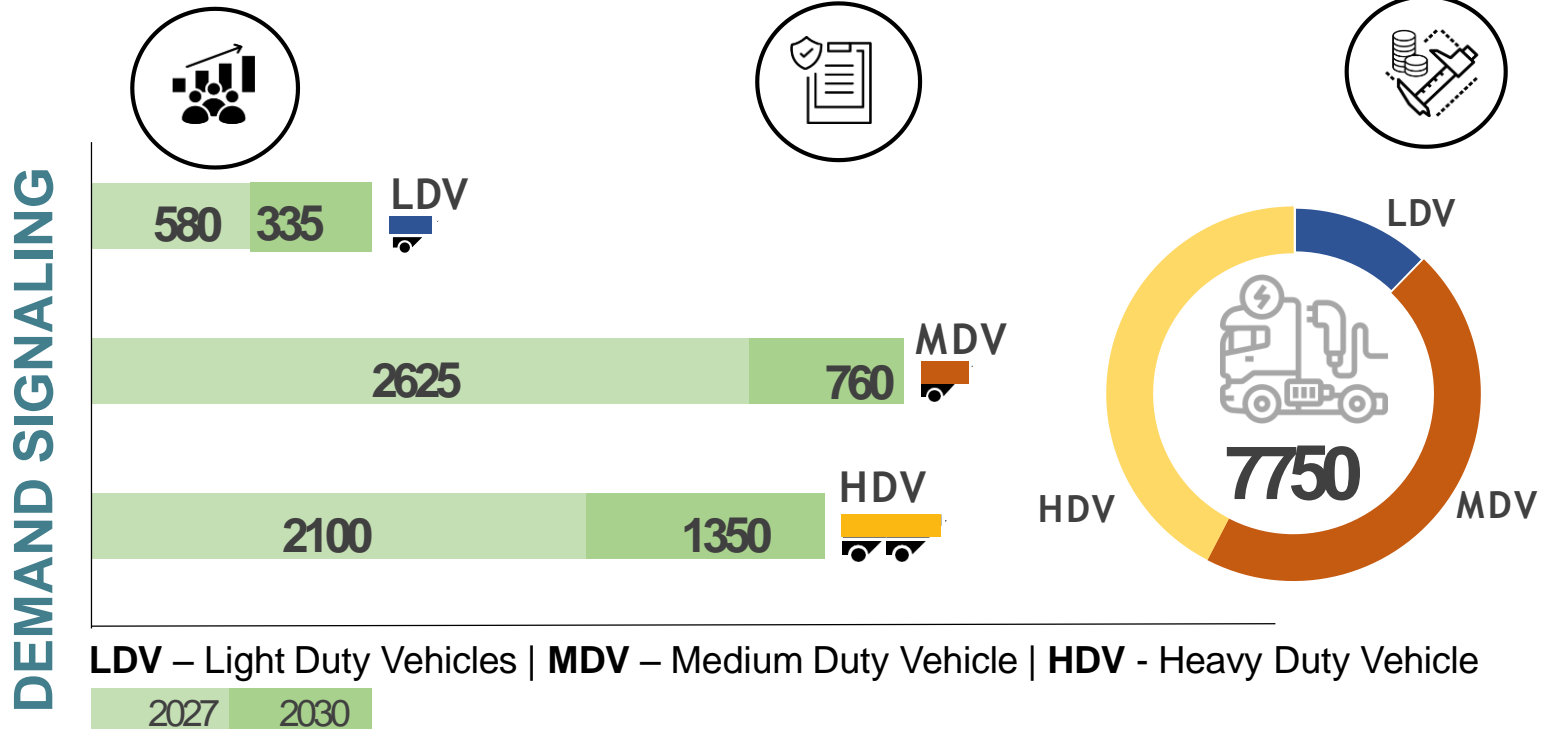
Decarbonizing freight at the National-level: eFAST

Objective: To leverage co-creation opportunities that fosters a conducive environment to accelerate freight electrification

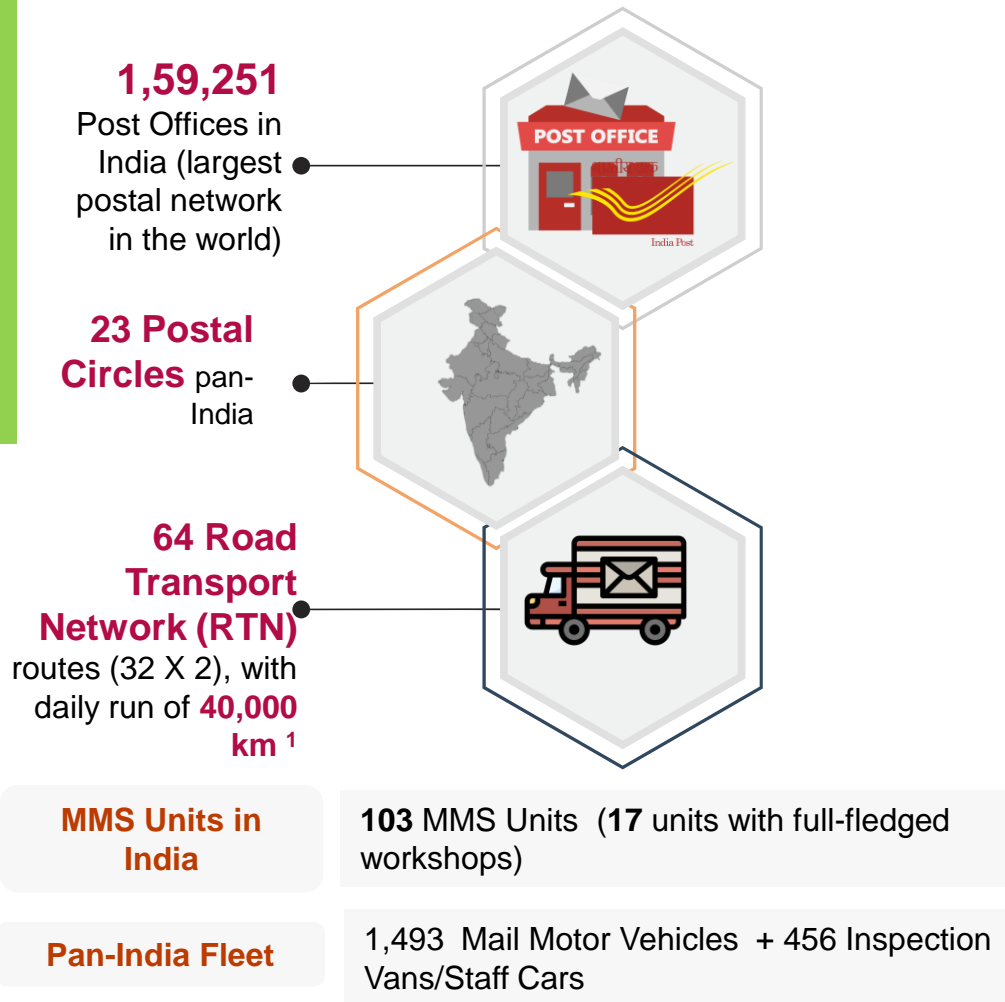
Pilot and Demand Aggregation

Unit Economics and Finance

Informing Decisionmakers



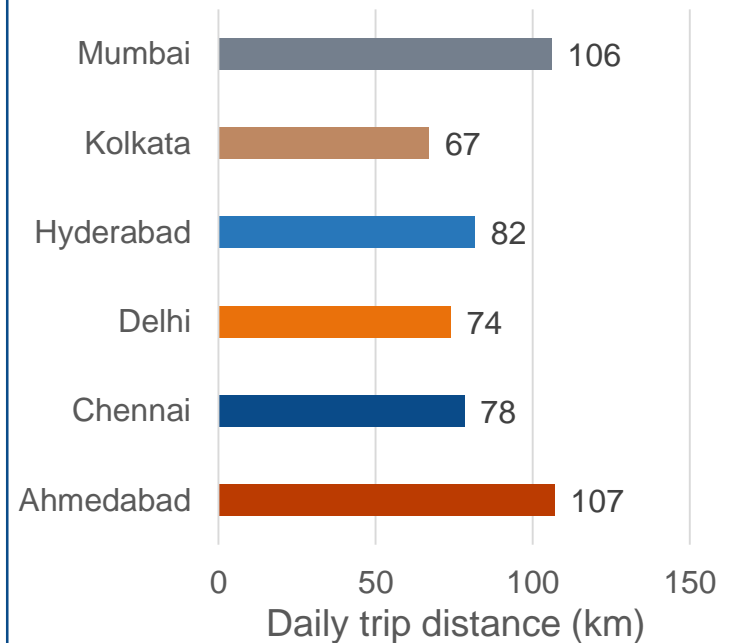
Background: Mail Motor Services, Department of Post



Selected cities for the study

Ahmedabad, Hyderabad, Mumbai, Chennai, Kolkata and New Delhi

Average Daily Trip Distance (km)



*Data sourced from Annual Report, DoP (2022-23)

¹ As on 31st December 2022

Total Cost of Operation for MMS Operation



Vehicle Type	ICE Vehicles (Rs/km)	Electric Vehicles (Rs/km)
LCV	10-12	4-10
MCV	11-18	8-15
HDV	25-32	28-30

How shifting to EVs is beneficial?

- Substantial **savings in Total Cost of Operations**
- Potential to **save 10,794 tonnes tailpipe CO₂ emissions annually**
- **Diesel consumption reduced by 28,20,613 litres annually**

Opportunities and way forward for electrifying urban freight

- **Accelerating Electric Freight Accelerator for Sustainable Transport (eFAST):** Prepping the ecosystem - ‘Champions of Change’ for the following sectors:
 - India Post
 - E-Commerce
 - Dairy
 - Fruits & Vegetables
 - Bottling plants
- **Demand aggregation- Bulk procurement model**
- **Robust and resilient Electric Vehicle Charging Infrastructure**
- **Access to affordable financial products**



"I DON'T KNOW WHAT THE PROBLEM IS.
I'VE BEEN USING ELECTRIC CARS FOR YEARS!"



Thank you



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