Session 02: Toward Decarbonization of Urban Transport in India

Date: 10 September 2020 | **Time**: 2:30 PM to 04:30 PM IST

Background:

Ever increasing traffic congestion in urban areas, poor air quality, road fatalities and GHG emissions are the result of increased trip distances, increased share of private motorized transport, and declining share of public and non-motorized transport (Shukla and Pathak 2016). Decarbonizing urban transport, therefore is prudent and will help in creating the cleaner, healthier and affordable transport in India.

From 2005 till 2015, there has been significant growth in the travel demand in India mostly attributable to the rapid urbanization. Table 1 provides a snapshot of increase in the travel demand in India in terms of passenger and freight activity along with the motorization rate:

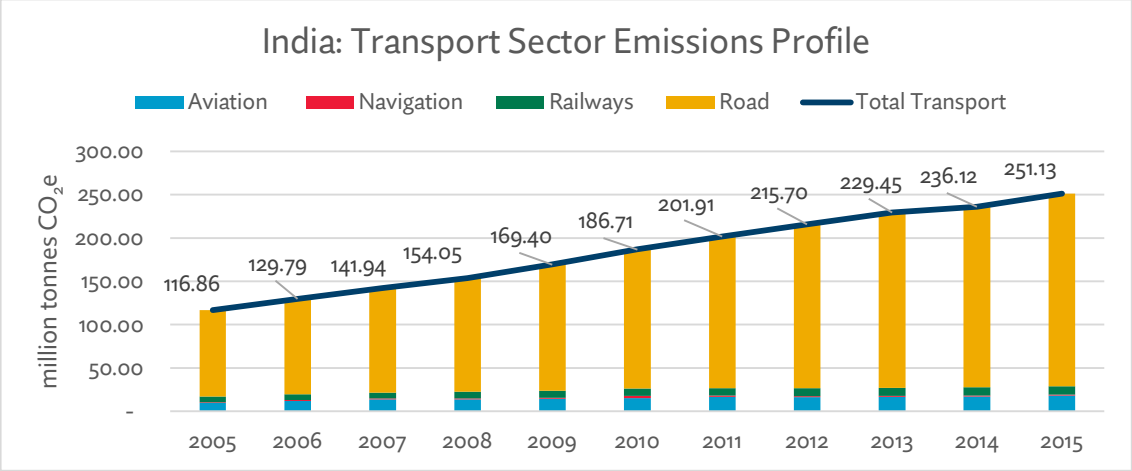
Table 1 | Percentage growth in the travel demand of passenger, freight activity and motorization level in India

Parameter	Unit	2005	2015	Percent change
Passenger Activity	Billion passenger-km	867	3189	267%
Surface freight activity	Billion tonne-km	706	1975	179%
Motorization rate	Total vehicles per 1000 people	72	161	123%

Source: (MoRTH 2018) The figures are rounded

As a result, absolute GHG emissions from the transport sector doubled between 2005 and 2015 in India. The GHG emissions is largely driven by the road transport.

Figure 1 | Emission profile of the transport sector in India (2005 – 2015)



Source: Adopted from the data published in GHG Platform India (Mohan, et al. 2019)

Government of India initiated several policies related to the urban transport (e.g. National Urban Transport Policy), alternative fuels and vehicles (e.g. National Policy on biofuels, National Electric Mobility Mission Plan), intercity passenger transport, efficiency (e.g. Fuel economy standards for cars, Auto Fuel Policy), which aims in rapid expansion and modernization of transport infrastructure (Shukla and Pathak 2016).

The new and emerging policies should focus on meeting the transport demand in efficient manner while delivering on the environmental and developmental benefits.

Public transport is the backbone of urban mobility; however, they are unable to cater to the increasing demand. This could be attributed to various technical, financial and regulatory constraints that hinders optimal planning and operation of public transport.

Similarly, non-motorized transport (NMT) such as cycling, and walking trips constitute a large percentage of the total trips made in Indian cities.

Table 2 | Mode of Transport Shares in Indian Cities (%)

Population	Bus	Autorickshaw	Rail/ Metro	Car	Two-Wheelers	Cycle	Walk	Total
>10 Million	20	3	14	6	9	5	43	100
1 – 10 Million	13	11	2	3	23	13	37	100
<1 Million	4	13	0	2	27	6	49	100

Source: compiled from the Comprehensive Mobility Plans of 27 cities Economic and Political Weekly 2016

Having said that, apart from a few parts in the cities like Bhopal, Mysuru, Bengaluru, etc., the public bicycle systems (PBS) and infrastructure for NMT is yet to pick up owning to the lack of infrastructure, safety, system designs (e.g. automated systems, smart payments, etc.) and finance.

Urban sprawls have led to longer trip lengths, an increase in the use of private vehicles and consequently higher emissions. Hence, solutions catering to the need of sustainable mode of transport is of prime importance. Opportunities such as Transit Oriented Development (TOD), Value Capture Financing (VCF), and road pricing for travel demand management may require urgent attention.

Government of India is considering the electric vehicles as one of the tools to decarbonize the transport sector. Government of India devised schemes like Faster Adoption and Manufacturing of Electric Vehicles in India (FAME) in phases to accelerate the adoption of electric vehicles and create a sustainable electric mobility ecosystem. Many states have either drafted or finalized the electric vehicle policies. However, there are still a few issues that needs due attention such as planning for Charging Infrastructure, battery manufacturing, import of minerals, action plan and strategies for adoption of electric vehicles that is tailor-made for the vehicle fleet composition of India. Besides, the industries are still not on-board with complete shift to electric mobility given the fact that they have recently shifted to Bharat-VI norms.

STUs and policy makers must come together with urban logistics service providers, Original Equipment Manufacturers (OEMs), battery manufacturers, cab aggregators (e.g. Uber, Ola, etc.), charging infrastructure manufacturers and electricity distribution companies (DISCOMs) to iron our governance issues for the sector, which haven't kept up with growth and urbanization. The missing link to a shared, connected and clean urban transport system in Indian cities is one that looks at policy and regulations to hold it together. Currently, the institutional structures in place are not adequate to support transport ecosystems in cities that are as big as states, and states that are as big as countries; hence scaling and replicating of any smart solution is hindered.

This is an opportune time to carve out the decarbonization pathways for the urban transport in India, simply as policy directive on decarbonized transport shall be a reality soon. The national think tank, NITI Aayog, in association with the International Transport Forum (ITF) of OECD recently launched the 'Decarbonization Transport in Emerging Economies (DTEE)' project in India on 24 Jun 2020 (PIB 2020).

Objective:

This webinar will convene all the relevant stakeholders involved in urban transport, including policy makers, OEMs, STUs, civil societies and research organizations, etc. to foster an inclusive discussion that will steer the transition toward a robust ecosystem, aligned on the pace, scale and objectives of the transitions. The webinar will explore different stakeholder priorities, objectives and solutions available including the need for indigenization, to chalk out a roadmap in India's national interest toward decarbonization of the urban transport sector. It will specifically look at which policies and incentives would be required to accelerate and facilitate the transition.

- What are the challenges (technological, behavioural, economic and social) and opportunities specific to India regarding mass electrification of urban transport?
- What specific smart infrastructure tailored to Indian cities would facilitate the integration of different transport modes in cities?
- What kind of coordinated policy and planning, as well and organizational and institutional changes would enable mass electrification of urban transport?
- What is required from the Government of India to enable transitions?
- What are the options to include electrification of urban transport targets in India's NDC?