आज़ादी का अमृत महोत्सव

G20 भारत 2023 INDIA

सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Compact Cities
Pathways towards India's Sustainable Mobility Future

16th Urban Mobility India Conference & Expo 2023

2006: A year of transformed transport priorities!

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Ministry of Urban Development, Government of India (MoUD) issued the National Urban Transport Policy (NUTP) in 2006, to bring about comprehensive improvements in urban transport services and infrastructure, with a **focus is on**

moving people rather than vehicles.

Urban Transport

Ministry of Housing and Urban Affairs
Government of India

National Urban Transport Policy 2006 (NUTP)

The objective of the policy is to ensure safe, affordable, quick, comfortable, reliable and sustainable access to transport facilities.

Numerous national government schemes have followed since then...

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THE TIMES OF INDIA

Central government approves 'PM E-Bus Seva' scheme to deploy 10,000 electric buses nationwide

Aug 23, 2023, 09.19 PM IST

In a significant stride toward promoting electric mobility in public transportation, the Central government has granted its approval for the 'PM E-Bus Seva' scheme. This groundbreaking initiative will see the deployment of 10,000 new electric buses across the length and breadth of the country. An announcement was made by Union Minister Anurag Thakur, revealing that the scheme is estimated to cost Rs. 57,613 crore. The Centre is poised to contribute Rs. 20,000 crore to the endeavor, which will also entail supporting bus operations for a duration of 10 years.
This momentous announcement is in alignment with India's ambitious aspiration of integrating 50,000 electric buses into the

advocating for the ad
development of critic
transit systems, facilit
comprehensive appr

THE TIMES OF INDIA

Centre assures to release Rs 745 crore JNNURM funds

Govt extends Fame scheme till 2024

1 min read • 26 Jun 2021, 01:26 PM IST

Livemint

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Fame or Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (Fame) scheme's first phase began on 1 April 2015, and was extended till 31 March 2019, and the second phase (Fame-2) that began on 1 April 2019 is to end on 31 March 2022

Fame scheme has failed to take off with only 5%, or ₹492 crore, of the ₹10,000 crore allocated under its second phase spent till March, as reported by Mint earlier.

l government has assured to release Rs 745 crore approved under the
l Mission (JNNURM). Union minister of urban development Venkaiah
Union minister of road transport and highways Nitin Gadkari and Mayor

UD) JNNURM central sanctioning and monitoring committee (CSMC)
released for projects not completed before March 31, 2014, in the
l on June 15 that the decision would mean a loss of Rs 254 crore for the
cation to scrap JNNURM had created confusion over the fate of recently
rth Rs 491 crore.

dia Council of Mayors, then decided to meet Naidu and also raise the
unicipal corporations. Accordingly, Sole along with Gadkari, ruling party
nittee chairman Narendra Borkar met Naidu at New Delhi on Tuesday.
oved funds under JNNURM to the NMC. "Naidu also promised to
ncluding it in the scheme that will replace JNNURM. Naidu asked the
t. NMC can complete ongoing eight projects once approved by the
ill give one year extension and set target to complete the projects by
ject may be delayed beyond this deadline. I informed the minister
e said.

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HOME / NEWS / INDIA

More than 90% of funds allocated under Smart Cities Mission utilised, says Hardeep Singh Puri

As much as ₹35,261 crore has been utilised on projects, the Minister informs the parliamentary committee

May 23, 2023 08:19 pm | Updated 08:19 pm IST – New Delhi

THE HINDU BUREAU

COMMENTS SHARE

Realty.com

Government decides to extend Smart Cities mission deadline till June 2024

Government launched its flagship Smart Cities Mission (SCM) on June 25, 2015 and 100 cities were selected for redevelopment through two-stage competition from January 2016 to June 2018.

PTI

Updated On May 2, 2023 at 09:08 AM IST

THE ECONOMIC TIMES | Industry

English Edition | 26 October, 2023, 11:45 AM IST | Today's Paper

All 7,000 e-buses under FAME-II may ply on Indian roads in next 1 yr: Heavy Industries Ministry official

PTI Last Updated: Jan 12, 2023, 01:18 PM IST

Synopsis

In 2019, the Faster Adoption and Manufacturing of Electric Vehicles in India Phase II (FAME India Phase II) scheme for promotion of electric mobility in the country was approved.

Through the scheme, it is planned to support 10 lakh e-two-wheelers, 5 lakh e-three-wheelers, 55,000 four-wheelers and 7,000 e-buses.

All 7,000 electric buses under the FAME-II scheme are expected to ply in different cities of the country in the next one year, a senior official of the Heavy Industries ministry said on Thursday. Out of the 7,000 electric buses under the FAME-II scheme, over 3,000 e-buses are already operating in the country.

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More buses, Better buses

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Provision of ~30,000 buses under JnNURM, FAME schemes and PM EBus Sewa Scheme; 300 km of BRTS was built in 10 cities across the country

A growing network of Metro rail

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Delhi Metro (+ Gurgaon + Noida)
392.97 km
65.2 km

(Bengaluru) Namma Metro
68.6 km
103 km

Hyderabad Metro
67.21 km

Chennai Metro
54.65 km
118.9 km

Kolkata Metro
46.96 km
47.7 km

Mumbai Metro
46.5 km
146.1 km + 11.1 km (Navi mumbai)

Ahmedabad Metro
38.63 km
21.4 km

Nagpur Metro
38.22 km
43 km

Source: Analysis by Ganesh Babu R P

850+ km of Operational Metro Network in 15 Cities & over 600 km Under Construction

Transforming roads to Healthy streets

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Through initiatives like JNNURM, Smart Cities Mission, over 1000 km of roads have been transformed into safe and liveable streets.

Pedestrian Plaza, Chennai
Source: SCM & ITDP Documentation - Elements

Accelerating the transition towards electrification since 2015

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Big push for electric vehicles to boost demand, cut air pollution

POLICY NOTIFIED Delhi will show the way when the world holds discussions on EVs five years later, says CM Kejriwal

Sweta Goswami

NEW DELHI: The Delhi government on Friday notified the Delhi Electric Vehicle (EV) Policy, 2020 — with an aim to reduce air pollution and kick-start the economy by spurring demand — that offers subsidies and road tax and registration fee waivers for electric vehicles bought in the city.

The policy, launched by chief minister Arvind Kejriwal on Friday, also talks about increasing road tax for fuel-based vehicles, at least in the luxury segment, and imposing in certain parts of

have to reduce it further," Kejriwal said on Friday. "During the pandemic (lockdown), we saw that PM10 and PM2.5 levels witnessed a drastic reduction. We could see the clear skies and feel the clean breeze. This policy will give the Capital a much needed push towards a cleaner and greener Delhi."

There are largely two problems militating against the rise of private EVs in Delhi — the high cost of purchase, and the lack of sufficient charging infrastructure — and the policy aims to address both.

years, after which it will be revised — will also help in creating jobs "at a huge level" in the fields of driving, servicing, financing, charging and so on.

Gahlot said the policy lays more emphasis on two-wheelers, public transport, shared vehicles and goods-carriers, than private four wheelers.

"To purchase an electric commercial vehicle, the government will also offer loans to the people on low-interest rates. All Delhi government vehicles will be EVs in the next 12 months. All two-wheelers engaged in last-mile deliveries such as food delivery

Delhi Electric Vehicle Policy, 2020

Dec 23, 2019	Aug 07, 2020	
Delhi cabinet okays the policy	Policy is notified	■ The policy will be valid for 3 years starting from Friday ■ It will be revised after three years

GOAL
Electric vehicles to contribute to 25% of all new vehicle registrations by 2024
- Aims to transform national capital to the 'EV capital of India'
- Focus on electric two-wheelers, shared transport vehicles (e.g.

ACROSS ALL VEHICLE CATEGORIES
- All financial incentives will be applicable for both fixed battery models and swappable battery models.
- Road tax and registration fees to be waived for all EVs

Two-wheelers
- Purchase incentive of ₹5k per kWh of battery capacity,

Four wheelers (e-cars)
- Purchase incentive of ₹10,000 per kWh of battery

MINISTRY OF HEAVY INDUSTRIES & PUBLIC ENTERPRISES
GOVERNMENT OF INDIA

mygov मेरी सरकार

A Big Push Towards PM's Vision of Sustainable Transportation under FAME Scheme (2/2)

FAME Phase II

Being implemented for 3 years w.e.f. 1st April'19, with a budgetary support of ₹10,000 crore

...pport approx. 7000 e-Buses, 5 lakh ...Wheelers, 55000 e-4 Wheeler ...enger Cars, 10 lakh e-2 Wheelers & ...ion of charging infrastructure

Incentives on offer under phase II of FAME

₹10,000 per kW
Planned incentive on the basis of battery size

₹20,000 per kW
Planned incentive for electric buses

₹8,596 crore
Total incentive sanctioned

₹1,000 crore
Incentive for setting up charging stations

Sour...

Lower operating cost, subsidies push e-bus sales

VARUN SINGH
New Delhi, June 5

LOWER OPERATING COSTS and availability of subsidies by the government have worked as incentives for manufacturers of commercial vehicles to focus more on producing electric buses.

Electric buses had a share of 3.6% of the overall bus volumes in FY22, according to an Icra report.

"There has been significant growth in electrification of urban mass transportation in the country, primarily due to the government's push through various schemes and incentives such as the FAME, GST optimisation, production linked incentive scheme, tax subsidies and electricity subsidisation for electric vehicles (EVs)," Rohit Srivastava, VP, product line - buses, Tata Motors, told *FE*.

Tata Motors currently offers the Starbus electric model in the 9-metre and 12-metre segments. The company has already sold around 650 electric buses, which have covered 36 million km cumulatively. It recently emerged as the lowest bidder for the largest electric bus tender floated by Convergence Energy Services (CESL).

"There has been a 25-30% drop in operating costs of electric buses over the past five years. With government incentives and the gross cost contract (GCC) business model, the per-kilometre operating cost for electric buses is already lower than conventional diesel-powered buses," Srivastava said.

Switch Mobility, the EV arm of commercial vehicle major Ashok Leyland, is developing a wide range of buses to cater to intra-city and intercity categories, among others. Having already sold 115 electric buses in India, the company has an order book of 600 units, which will become operational this fiscal.

Mahesh Babu, director and CEO, Switch Mobility India, said that the operational cost of electric buses is almost four times lower compared to conventional buses due to the fuel cost.

"The city buses are on a 10-12-year GCC contract, which lowers the TCO over the years. With this model and the current subsidy from the government, the electric city buses have already become a viable option in the country," Babu said.

- Electric buses had a share of 3.6% of the overall bus volumes in FY22, according to a report
- Tata Motors currently offers the Starbus electric model in the 9-metre and 12-metre segments.
- Ashok Leyland's EV arm is developing a wide range of buses to cater to the intra-city and intercity categories.

Nishant Arya, VC and MD, JBM Auto, said that electric buses have emerged as the future of mass public transport, given climate change issues and the rising oil import bill. JBM Auto showcased its maiden electric bus in 2016 and at present, its electric buses, including the Eco-Life model, are operating in Maharashtra, Delhi, Karnataka, Gujarat, Haryana, Uttar Pradesh and Andaman & Nicobar, among others, across various applications and platforms.

Sudhir Mehta, chairman, EKA and Pinnacle Industries, said that the government's goal to achieve net-zero emissions by 2070, various policy initiatives and state government incentives have propelled the focus on electric buses and overall commercial electric mobility.

26 States have Draft EV policies and have set targets for electrification
~6% rate of electrification for new vehicles in India

Yet, Indian cities are witnessing an unabated growth in private (ICE) motor vehicles!

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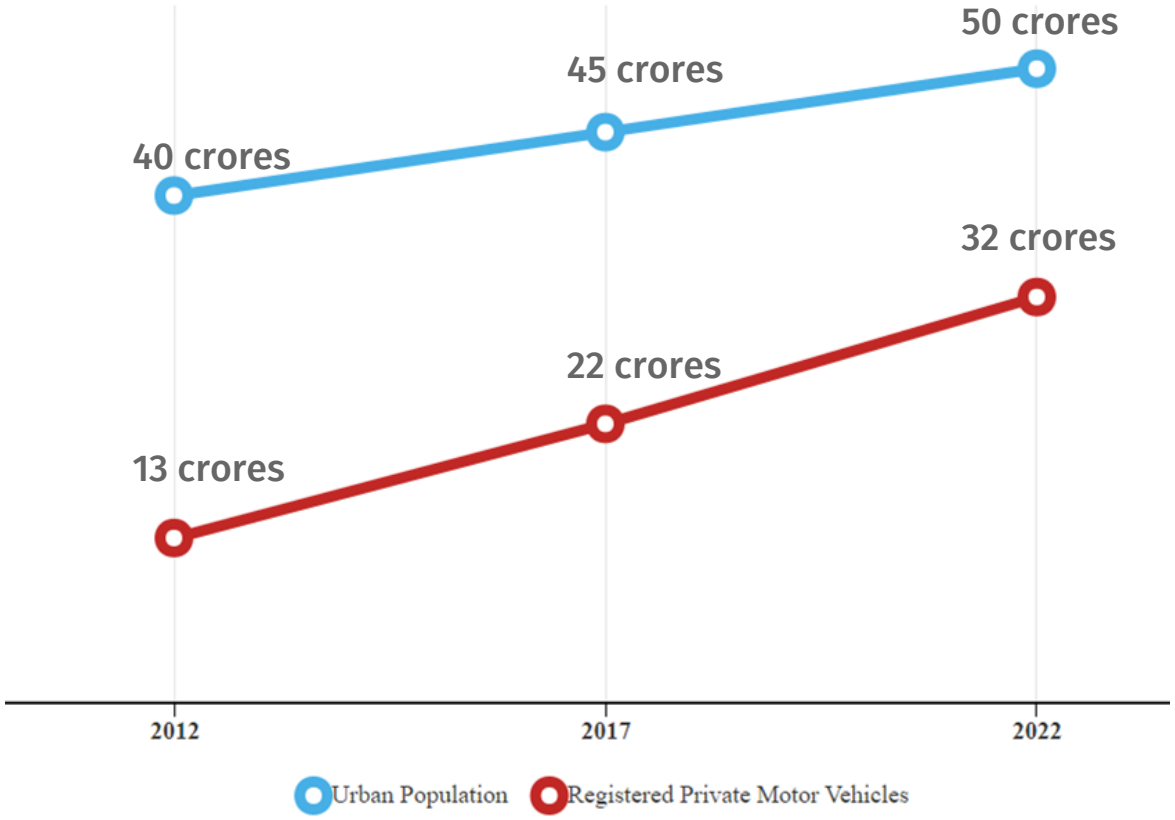
It took **60 years** (1951 to 2008) for India to cross the mark of **10.5 crore registered vehicles**. But thereafter, the **same number** was added in a mere **six years** (2009-15).

Source: Centre for Science and Environment

Urban population grew by 26%, whereas Private Motor Vehicle (PMV) grew by 138%!

Source:
Urban Population: World Bank Population Data
PMV: MoRTH and Vahan Data Dashboard



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Traffic congestion costs four major Indian cities ~Rs 1.5 lakh Crores a year!

*Congestion in Delhi, Mumbai, Bengaluru and Kolkata costs the economy Rs 1.5 lakh crores annually, according to a study conducted by global consultancy firm.**

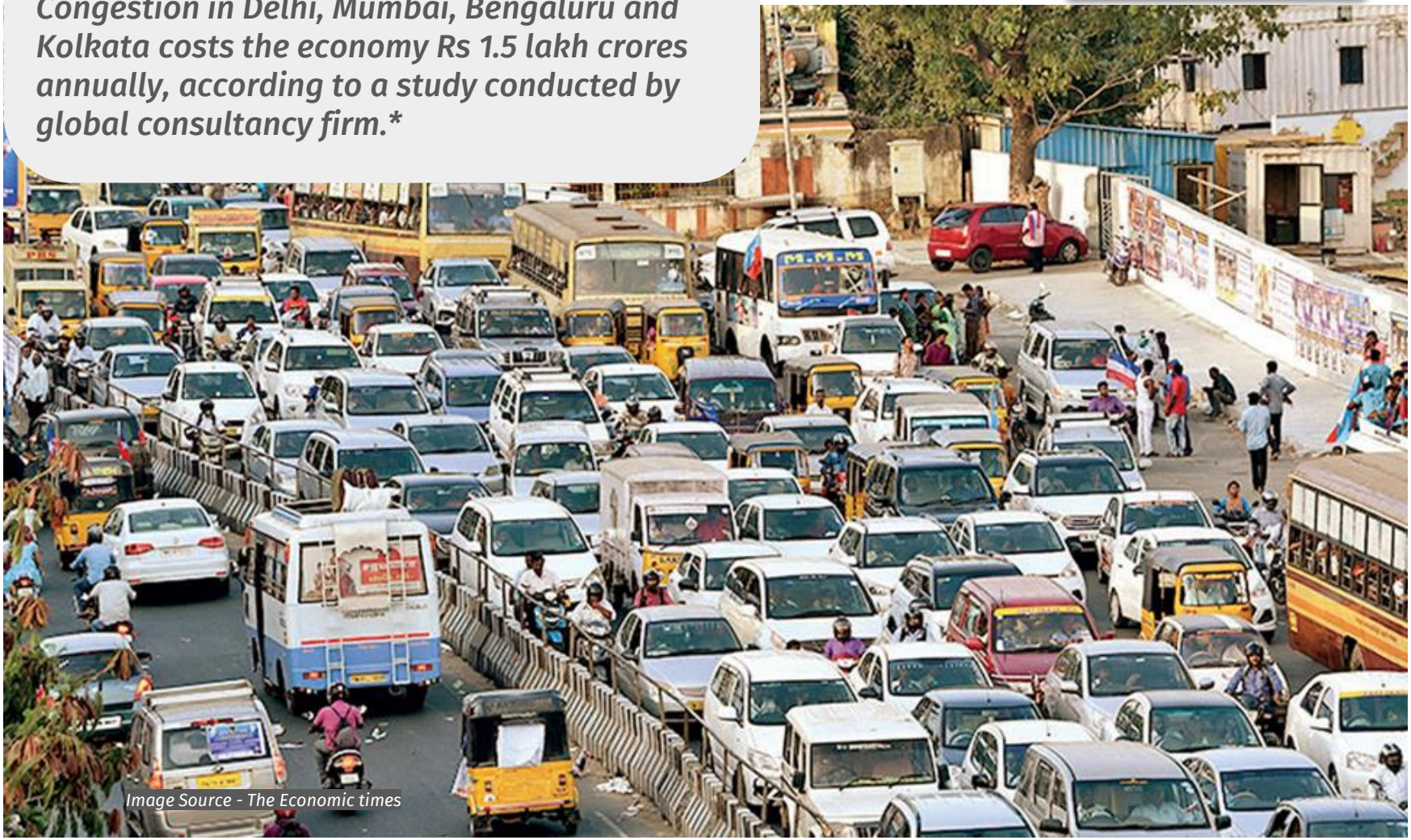

Image Source - The Economic times

Transport is responsible for 10% of air pollution related deaths in India.*

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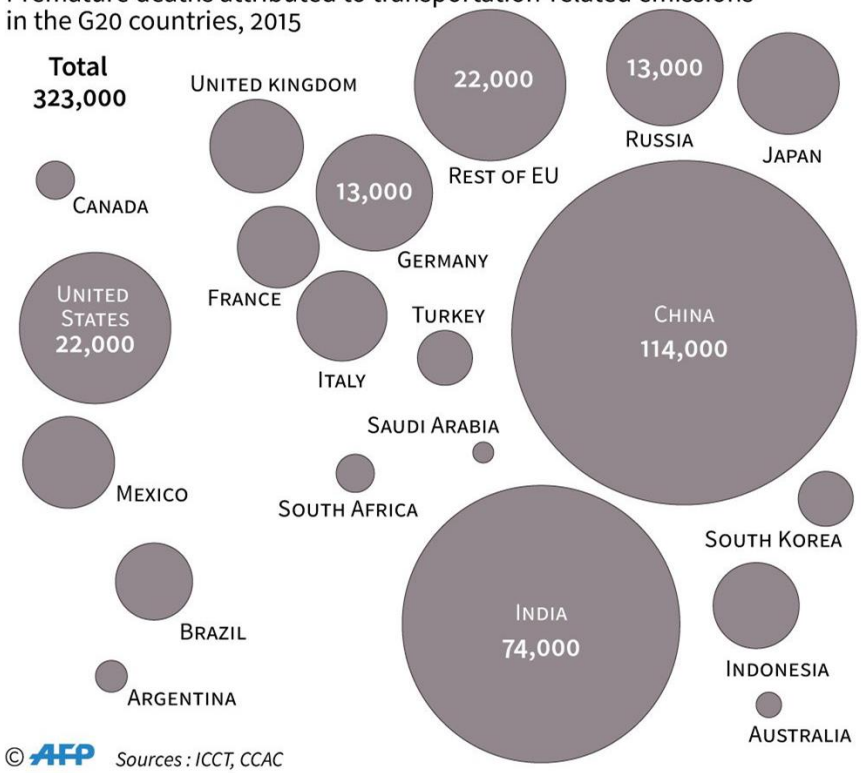
Deaths linked to transport pollution

Premature deaths attributed to transportation-related emissions in the G20 countries, 2015



India ranks 2nd in the world in terms of **deaths linked to transport emissions**

India is the world's fourth most significant greenhouse gas (GHG) emitter – contributing 7% of all global emissions.**

**Study by ICCT,2015 - swachhindia.ndtv*
***Vehicle emissions in India, CEEW-2021*

Sprawl and trip lengths increasing in Indian cities

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Urban sprawl actually accounts for **55.3% of India's total population.**

Low density centres of cities lack infrastructure, yet these cities are home to populations that cannot afford housing in the centre and **commute to jobs within core cities using unsustainable commuting modes.**

Source: https://www.brainkart.com/article/Urbanization-of-the-World-and-India_37192/

Transit Oriented Development for Indian Smart Cities _Report by NIUA.

Our study shows that if India
continues the trajectory of the last decade,
private motorized travel will increase ~8 times by 2050,
as per the forecasts by the
International Energy Agency (IEA).

What is the solution ahead?

ITDP and the University of California, Davis compared the impacts of maximum-feasible electrification, modal shift through 4 scenarios:

1. **Business As Usual:** India continues the trajectory of the last decade. Private motorized travel increases rapidly, reaching roughly eight times current levels by 2050.
2. **Electrification Only**: All new or imported vehicles are electric by 2040—in line with the COP 26 Glasgow Declaration.
3. **Mode Shift Only**: Compact city planning is combined with reallocation of both funding and street space to walking, bicycling, and public transport. Car travel continues to increase but much more slowly, reaching less than half of Business as Usual levels by 2050.
4. **Electrification + Shift**: Compact cities and mode shift, combined with rapid electrification

Electrification + Modal Shift the Only Way Forward to Achieve Net Zero Target

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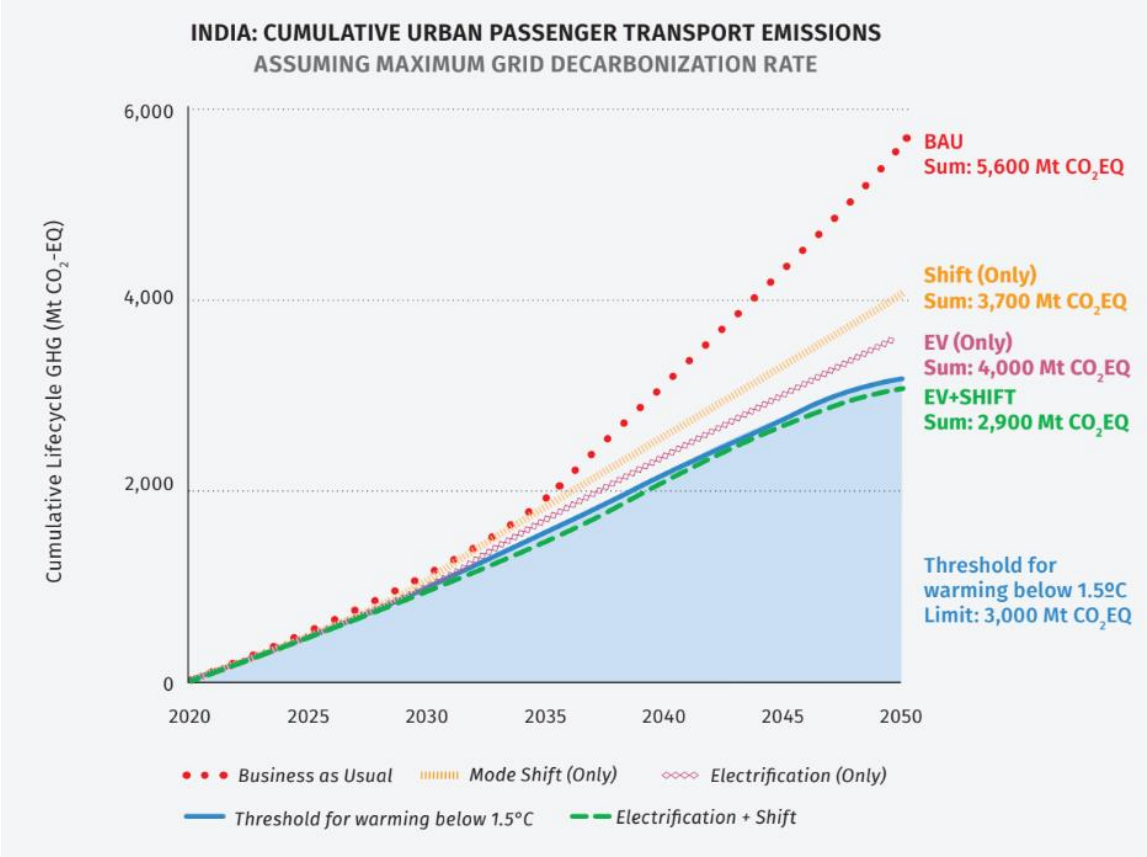
- **Only the combined Electrification + Shift scenario is sufficient to keep India's cumulative urban passenger transport emissions within a level potentially compatible with limiting climate change to 1.5°C in this century**
- It is the **only scenario that approaches India's goal of achieving Net Zero by 2070.**
- Electrification (Only) and the Mode Shift (Only) scenarios would each cause considerable reductions in greenhouse gas emissions but not enough to attain the target



Need to Minimize Life Cycle Emission of Cars to Achieve India's Net Zero Target

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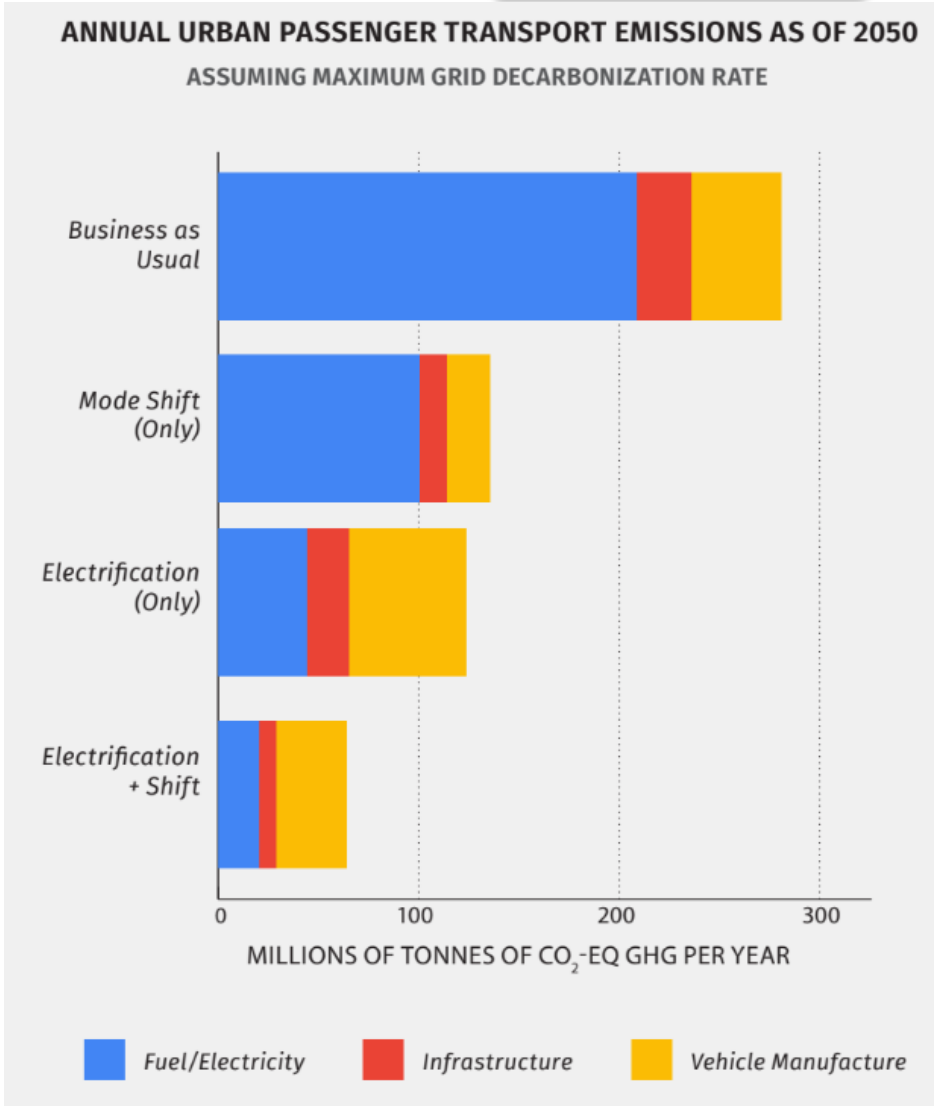
The use of cars, electric or not, still leads to substantial emissions from

- paving and maintenance of roads,
- production of steel,
- production of batteries, and
- other industrial processes involved in vehicle manufacture and disposal.

For India to reach Net Zero by 2070, these "life cycle" emissions must be minimized, which can only be accomplished with an equal focus on mode shift to public transport, walking and cycling.



Savings of ~400 lakh crores in Mode Shift and Electrification + Shift Scenario

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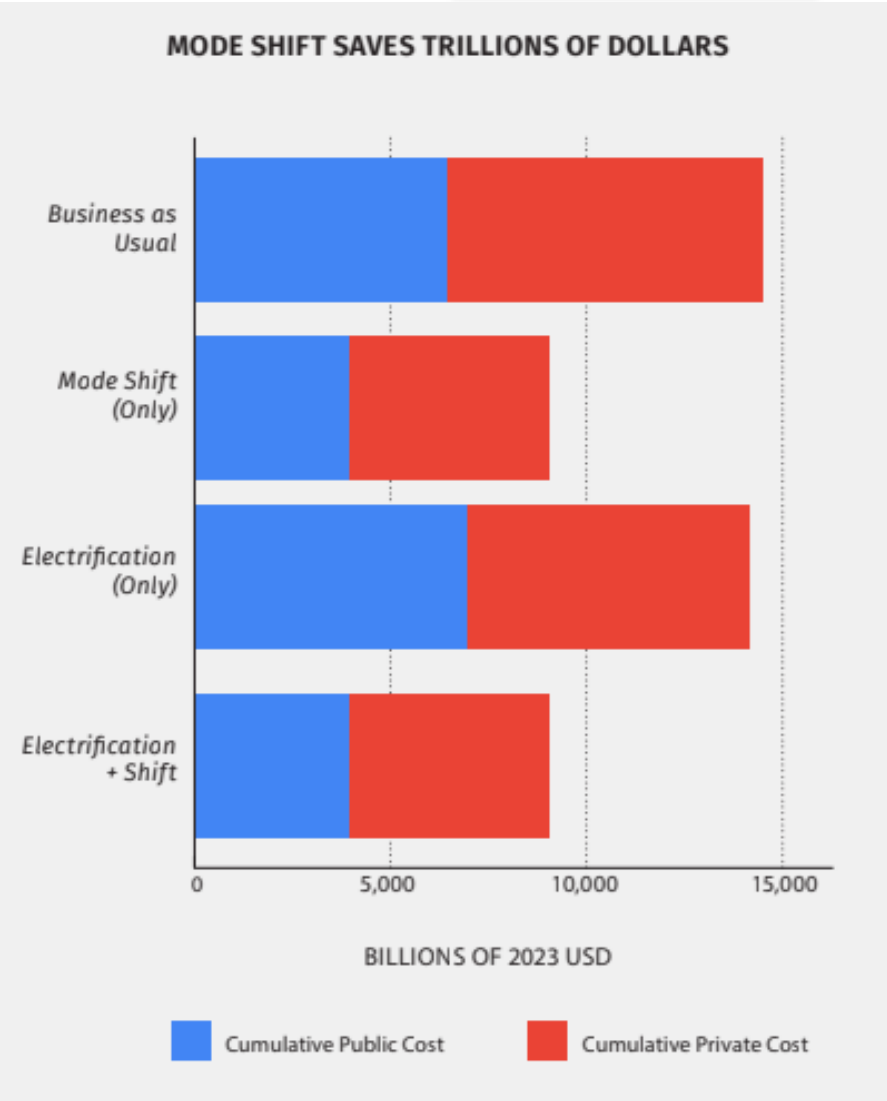
- Mode Shift (Only) and Mode Shift + Electrification would lead to enormous economic savings for the Indian economy: **a cumulative savings of more than 400 lakh crore INR (5 trillion USD) through 2050.**

- The costs of expanding public transport service in these 2 scenarios are high, they are more than balanced by the savings brought by a reduced need to pay for road and highway expansions.



Note: Only the direct impacts: the costs of manufacturing, maintaining, fueling, and operating vehicles and the costs of building and maintaining infrastructure were considered.

Paris decreased car travel by almost

50 percent in 30 years

by investing in other modes and traffic control strategies!

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What must India do differently to accelerate the shift to compact liveable cities built on the foundation of public transport, walking and cycling; where motorised travel is clean yet controlled?

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Thank you

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