



# **India On The Move:**

## **Stories of people driving the bus sector**



Image: CEEW



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## ACKNOWLEDGEMENT

ASRTU and CEEW would like to express our sincere gratitude to all the individuals and organisations whose photographs and contributions helped create an attractive, illustrative summary book of the story of buses.

This photobook compiles photographs from multiple sources to document the remarkable transformation of India's public transportation sector. We thank researchers from CEEW, especially **Divyanshu Yadav, Samradh Singh Chauhan, Udit Narayan and Bhanu Sharma**, who captured compelling images during various field visits and research projects, documenting the vibrant stories of India's bus sector transformation. We thank the Shakti Sustainable Energy Foundation, especially Mr Rishabh Sethi, Programme Manager, for his constant guidance.

We are extremely grateful to the State Transport Undertakings (STUs) and industry partners who generously provided us permission to photograph their people and premises. We would like to extend our sincere thanks to **ASTC (Assam State Transport Corporation), Surat Sitilink Ltd., Directorate of Urban Transport, UP; Prayagraj City Transport Service Limited, NueGo, Veera Vahana Udyog Pvt. Ltd., SUN Mobility Pvt. Ltd., Kalyani Powertrain Limited, Samarthyam Centre for Universal Accessibility, Chartered Speed Pvt. Ltd., TATA Motors, and Prasanna Purple Mobility Solutions Pvt. Ltd.** for their valuable photographic contributions that have enriched the visual storytelling of this publication.

We also express our heartfelt appreciation to the numerous bus operators, drivers, conductors, technicians, maintenance staff, cleaning personnel, and passengers across India who graciously allowed us to document their daily experiences, sharing their inspiring stories. This photobook stands as a testament to the collective efforts of all those working towards creating a cleaner, more inclusive, and sustainable public transport ecosystem in India.

Thank you all for your generosity and support in this endeavour.

### Key Contributors

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## MESSAGE



### Sh. Nitin Jairam Gadkari

Minister

Road Transport and Highways, Government of India



I am delighted to know that the Association of State Road Transport Undertakings (ASRTU), and the Council on Energy, Environment and Water (CEEW) are launching “**India On The Move: Stories of people driving the bus sector**”, providing a comprehensive overview of the evolving Indian bus market and its transformative journey in recent years.

Buses, beyond economic metrics, serve as a social equaliser. For millions of children, women, the elderly, and low-income communities—especially in rural and peri-urban areas—buses are often the only dependable and affordable means of transport. For them, mobility is not just about moving from place to place; it is about accessing education, work, healthcare, and opportunity—with safety, dignity, and independence.

India’s bus ecosystem is both robust and dynamic, continuously evolving to meet the needs of our people. From the engineers who design and manufacture modern vehicles, to the operators, drivers, and conductors who keep them running, and the countless passengers who rely on them daily—each plays a vital role in this remarkable journey.

I am delighted to commend this CEEW photobook, which offers a powerful visual narrative of India’s robust and yet evolving bus ecosystem. Through its expressive images, it captures the spirit of innovation, resilience, and inclusivity that defines India’s approach to public transport. It brings to life the people and stories behind our buses and inspires us to build an even more accessible, sustainable, and equitable future for all.

## MESSAGE



### Dr Arunabha Ghosh

Chief Executive Officer

Council on Energy, Environment and Water (CEEW)



The transformation of India’s bus sector represents far more than a shift in technology. State by state, it shows our country’s commitment to reimagining the trinity of jobs, growth, and sustainability.

Our research at CEEW reveals that achieving enhanced electric public transport could create over 1.2 lakh new jobs in EV powertrain, battery manufacturing, and electricity generation by 2030, while potentially saving valuable forex of USD 28.3 billion in crude oil imports. More significantly, this transition could deliver a 20 per cent reduction in greenhouse gas emissions when combined with higher public transport mode-share—a critical step toward India’s net-zero ambitions.

The bus sector’s evolution mirrors India’s broader journey toward a green economy. Every electric bus manufactured, every charging infrastructure deployed, and every skilled technician trained represents millions of green jobs being created across the value chain.

What makes this transformation truly remarkable is its human dimension. The stories captured in these pages, of women drivers embracing electric mobility, of people gaining accessibility to jobs and education, communities benefiting from cleaner air, show that sustainability is about people and opportunity. Not just technologies.

As India moves toward its ambitious target of net-zero emissions by 2070, the bus sector will play a pivotal role in creating the distributed, networked, and inclusive infrastructure that our future demands. This is not merely about replacing engines; it is about reimagining mobility as a force for social equity, economic growth, and environmental stewardship.

The stories in this book show that bridges must be built from both sides, forging connections that allow climate action to drive economic opportunity and social progress.

## FOREWORD



**Sh. Mahmood Ahmed, IP&TAFS**

Additional Secretary  
Ministry of Road Transport & Highways

Buses have long been the lifeblood of India's mobility, connecting cities, towns, and the remotest villages across our vast and diverse nation.

India is committed to strengthening its public transport systems, with buses forming the backbone of daily mobility for millions. Thus, MoRTH, Government of India has launched the National Electric Bus Programme—to catalyse public-private participation and enable cities to deploy clean, efficient, and accessible bus services. These efforts are critical not just for meeting net-zero goals but also for reducing congestion, and ensuring inclusive, affordable, and safe urban and regional transport.

The bus sector is a major driver of both employment and industrial growth. It directly employs millions as drivers, conductors, and technicians, while supporting a wider ecosystem of manufacturers, suppliers, and service providers. Related CEEW study notes, the bus ecosystem by 2047, could create nearly 9.6 million annual operational jobs and over half a million manufacturing-related jobs. India is also emerging as a global e-bus manufacturing hub. In 2023–24, India became the world's second-largest exporter of electric buses, reinforcing the nation's competitiveness and its commitment to the 'Make in India' vision.

I appreciate the CEEW team for the book that brings the users and workers to manufacturers and decision-makers altogether in this beautiful picture book. This effort captures the heartbeat of a sector that moves the nation.

MoRTH remains firmly committed to transforming the bus sector—making buses more inclusive, sustainable, and future-ready for every Indian.

## FOREWORD



**Shri Sudhendu J. Sinha**

Advisor (E-Mobility)  
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Public Transport, powered by cleaner and more efficient fleets, is essential for decarbonising transport and enhancing the quality of life for all citizens. Yet, one of the most important—and often overlooked—aspects of this transformation is the human dimension of the Bus Sector. This illustrative summary book brings that perspective to the forefront, highlighting the stories and experiences of the people who design, operate, and rely on our bus systems every day.

The transition to electric buses is not only a step toward decarbonizing mobility, but also a catalyst for generating millions of green jobs and creating opportunities for safer, cleaner, and more inclusive Public Transport System. Through powerful images and narratives, this collection demonstrates how buses continue to serve diverse needs across the country and how the adoption of e-buses is driving broader public engagement and mass appeal.

As we chart the next phase of India's mobility revolution, this book stands as a testament to the resilience, innovation, and collective spirit shaping the future of public transport in India.

I extend my congratulations to CEEW and all those who have directly and indirectly contributed in bringing out this collection. I am confident that it will serve as a gentle nudge to its readers to shift to Public Transport for seamless connectivity and mobility all across the country.

Image: CEEW



▶ Around 39.8 crore people commute daily using different types of bus services.

Source: MoRTH road transport year book (2019-20) and Bus & Car Operators Confederation of India (BOCI)

Of all the buses sold in 2023–24, school and college buses, staff buses, and mofussil buses dominated the market, together accounting for nearly 74% of total bus operations. For years, buses are providing children with a safe and reliable commute to school.

Source: IITM-CoE-ZET dataset

Image: CEEW



▲ The Indian bus market, considered the third-largest in the world (MoRTH, 2023), is projected to reach a value of USD 11.8 billion (INR 1.04 lakh crore) by 2026.

Source: IAMAI & Grant Thornton Bharat, 2024



Image: CEEW



▲ For millions of children, women, the elderly, and low-income communities—especially in rural and peri-urban areas—buses are often the only dependable and affordable means of transport.



◀ Buses empower people with disabilities to travel independently and participate fully in society.



◀ Many states offer discounted or free bus fares for seniors, women, and students—making daily mobility more accessible and supporting active, connected lives.

Buses offer diverse services to users.

Image: CEEW / ASTC



Every day, over 70 lakh Indians rely on intra-city buses for work, education, and healthcare.

Source : MoRTH road transport year book (2019-20)

Image: CEEW / NueGo



Private intercity buses alone carry 22 crore passengers, accounting for 57% of all bus trips nationwide.

Source : MoRTH road transport year book (2019-20)

“Comfortable intercity buses are my bridge between family and work, keeping both within reach no matter the distance,”

—says Arjun Tyagi, a passenger on NueGo’s intercity bus



Image: CEEW / NueGo

Beyond daily commutes, buses also serve leisure, learning, fun and lifesaving needs.

Image: CEEW



Tarmac e-buses at airports transport millions of passengers each year, offering dedicated airside shuttle services that ensure smooth and clean transfers between terminals and aircraft.

Image: CEEW



The Delhi Public Library has 6,169 registered members who use its mobile library services at different locations.

Converted ambulance buses like this KSRTC vehicle provide critical medical care in emergencies and remote areas.



Image: Deccan Herald



▲ Tourist buses like this one in Goa attract millions. They offer dedicated sightseeing services, helping tourists explore India's vibrant destinations.



▲ Food Bus of India brings a novel dining experience with its double-decker bus restaurant, offering a mobile alternative to traditional eateries and drawing diverse visitors.

India has been a market of about 0.1 million (one lakh) new buses every year since 2010.



Image: CEEW

▲ Diesel buses dominates the market, accounting for nearly 95% of annual bus sales over the past decade. However, electric bus registrations have grown significantly, recording a CAGR of 65%, with 9,700 e-buses registered by 2024.

Source: Vahan dashboard, MoRTH



Image: CEEW

▲ According to CEEW-TFFM estimates, India's on-road bus stock is projected to reach approximately 3.34 million (33.4 lakh) buses by 2047. Diesel buses will likely continue to lead the market, representing 71% of the overall bus stock. Electric (e-bus) and hydrogen fuel cell electric buses (HFCEV-bus) collectively may account for a significant 29% share in this timeframe.



▲ The adoption of e-buses in India remains largely limited to intra-city operations.



▲ Private-sector investments and growing Scope 3 declaration commitments are driving e-bus adoption beyond public transit, with emerging use-cases like staff transport and inter-city services leading the way.

By 2047, 3.34 million (33.4 lakh) buses will be on the road—unlocking millions of new jobs across manufacturing, operations, and maintenance.

Image: Industry



Image: Industry

▲ The Ministry of Skill Development and Entrepreneurship estimates that the electric vehicle (EV) industry could generate 10 million (1 crore) direct jobs and 50 million (5 crore) indirect jobs by 2030.



▲ CEEW study finds that bus manufacturing and its operations will create annual total jobs to the tune of about 5.14 million (51.4 lakh) jobs by 2030 and 10.11 million (1.01 crore) jobs by 2047.



Image: Industry

▲ CEEW study estimates that bus sector will create approximately 0.34 million (3.4 lakh), and 0.51 million (5.1 lakh) manufacturing jobs by 2030, and 2047.



Image: Industry

▲ In October 2023, India's Female Labour Force Participation Rate (FLFPR) reportedly increased by 4.2 percentage points, reaching 37%.

The adoption of advanced manufacturing technologies is enabling female workers to make significant strides on shop floors and in traditionally male-dominated roles at manufacturing unit.

Source: Ministry of Statistics and Programme Implementation 2023



Image: Veera Vahana

▲ Skilled workers meticulously assemble bus bodies, blending precision engineering with craftsmanship. India's bus manufacturing sector supports over 500,000 jobs, driving innovation and quality in every vehicle produced (SIAM, 2023).

Image: Veera Vahana



▲ Each year, more than 80,000 new buses are delivered nationwide, expanding safe and reliable mobility for millions (MoRTH, 2023).

Operational or post-procurement roles within the bus sector include the jobs of drivers, conductors, administration staff, supervisors, and cleaning and maintenance personnel.



Image: CEEW / Surat Sitilink

▲ CEEW study estimates that bus sector will create approximately 4.7 million (47 lakh), and 9.6 million (96 lakh) operational jobs by 2030, and 2047.



Image: CEEW

▲ CEEW estimates that a total of 2.99 persons are required to operate an e-bus, while 2.82 persons are required per ICE bus. Thus, the job intensity of e-buses is greater than that of ICE owing to the need for charging staff.

Image: CEEW / NueGo



▲ Bus driving has traditionally been a male-dominated sector. However, the ease of driving an e-bus has opened up opportunities for women to participate in the driving force.

Image: CEEW / NueGo



▲ "I never thought I'd drive a bus. But these e-buses are smooth, silent, and they make me feel empowered,"

— says Sumitra Kumari, driver of inter-city e-bus at NueGo



Image: CEEW / Surat Sitilink

▲ At the time of joining, before being deployed to the field, e-bus drivers undergo a mandatory 5–7 days training programme. This includes three days of theory classes and simulator training to build driving confidence, followed by practical driving experience at the depot.



Image: CEEW / NueGo

▲ “Driving an electric bus is far easier and more comfortable than driving an ICE bus. The simulator made learning easy and boosted driving confidence,”  
—says Vibha Kumari, driver of inter-city e-bus at NueGo



“Every morning, I record my attendance at the depot—this helps the depot manager in allocating buses efficiently and ensures each route has a dedicated driver ready for the day,”

—says intra-city e-bus driver at Prayagraj



“Before taking the e-bus on the road, I carefully verify the safety checklist and make sure all systems and parts are working perfectly for a safe journey,”

—says inter-city e-bus driver at NueGo



If any defect or issue is noticed during the checks, it is immediately reported to the depot manager so that it can be fixed or the fleet can be replaced before the bus goes into service.



Image: CEEW

For driver comfort, depots are equipped with restrooms where they can rest during off-hours, lunch breaks, or while the bus is charging.



Image: CEEW / Surat Sitilink

Before every shift, e-bus drivers undergo mandatory alcohol testing to ensure they are fit to drive—prioritising the safety of every passenger.

Conductors shape the user experience of the buses.



Image: CEEW / ASTC

▲ From helping passengers to handling fares, conductors are key to keeping city buses running safely and efficiently.



Image: CEEW / ASTC

▲ “My day starts before sunrise, operating from 6 in the morning until 8 at night. Meeting hundreds of people every day, I help them reach their destinations safely. No two days are ever the same, and that’s what makes this job so rewarding”.  
—says conductor of city e-bus Guwahati.



▲ In a BRT system, conductors are not assigned to individual buses. Instead, a ticket counter operated by CTU/STU staff handles ticketing, while a security guard stationed at the entrance ensures fair and safe passenger movement.



▲ Once passengers enter the BRTS station, they have the flexibility to board any bus operating on that corridor.

Maintenance staff ensures safe and unhindered bus rides.

Image: CEEW / NueGo



▲  
“My day starts early, managing and checking bus parts every day before bus goes out for operation. With advanced facilities for handling batteries and other parts at the depot, there’s less stress and more convenience in work,”  
—says Shubham and Monu, EV technicians at the depot.

Image: CEEW / Surat Stitilink



▲  
During lunch breaks, buses undergo routine maintenance checks at the depot, conducted by workshop team. Regular upkeep like this helps minimize breakdowns and keeps daily operations running smoothly.

The unsung heroes of clean and safe journeys of buses.



Image: CEEW / NueGo

▲ Ms. Pinki and her team holds the responsibility of keeping the depot clean and facilitates smooth for hygienic operations.

Image: CEEW



◀ Ensuring every journey begins fresh—dedicated staff sanitize and clean bus interiors daily, supporting passenger health and comfort as emphasized in MoRTH's Clean Bus Guidelines.

Image: CEEW



▶ Regular exterior washes by the team keep buses clean and presentable, ensuring a more pleasant experience for passengers and longer life for the vehicle.

## Keeping buses moving: The back-end team of bus operations

“We carefully design bus schedules to deliver efficient and reliable service across cities. Strategic planning is essential to keep public transport smooth, timely, and dependable for everyone,”  
—says the Operations Head of inter-city bus service.

Image: CEEW/NueGo



Image: CEEW/NueGo



The control room team provides real-time oversight of bus operations, quickly responding to challenges and maintaining service punctuality and passenger safety.

Image: CEEW/Surat Sthlink



“Using advanced surveillance systems and an AI-integrated monitoring setup, I monitor city buses live, enhancing safety, security, and schedule adherence across the network.”  
—says the admin team staff of Greencell, Surat.



Another crucial role for maintaining the operational readiness of the fleet and meeting daily service demands is timely charging. This responsibility is managed by a dedicated team of technicians.

"My role involves connecting buses to chargers during both opportunity charging and overnight charging. I ensure that all buses are fully charged by morning and ready to hit the road for the day's operations"

— says technician at Prayagraj bus depot.



▲ Opportunity charging/ en-route charging allows e-buses to top up their batteries quickly at terminal stops or along the route.

Battery swapping is an alternative to fixed-point charging, allowing depleted batteries to be replaced with fully charged ones in just 2–4 minutes. This makes it as fast as refueling and ensures that buses remain on the road without long charging delays. ▶



Refitting a new fuel: Converting ICE buses to electric.

Image: Kalyani Powertrain Ltd.



▲ Team of retrofiters developing 3D models of ICE vehicles to design parts for its retrofitment.



Image: Kalyani Powertrain Ltd.

▲ A team of technicians carefully removes ICE components from the bus, modifies the chassis, and installs the EV kits, to effectively convert the bus into an extended-life electric bus.

From cradle to old age, buses remain at the heart of India's journey, a timeless companion woven into the fabric of our independence and our future. Looking ahead, as India approaches its centenary in 2047, buses are projected to serve nearly one-fourth of the nation's population—about 450 million people daily. As buses continue to serve as a vital lifeline for children, the elderly, persons with disabilities, and millions from all walks of life, it is important to recognize the countless dedicated individuals working behind the scenes.

From drivers and conductors to technicians, maintenance teams, and support staff, their efforts ensure the smooth operation of bus services that connect places and people every day - while generating livelihoods for over 10.1 million individuals across the country. More than just vehicles, buses are lifelines that connect generations, empower communities, and remain an enduring part of India's journey.



Image: CEEW



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