



THE ENERGY AND RESOURCES INSTITUTE
Creating Innovative Solutions for a Sustainable Future

TRANSPORT AND URBAN GOVERNANCE DIVISION (TUGD)

ABOUT US

The Transport & Urban Governance Division (TUGD) at TERI assists policymakers in urban and transport management, offering technical support for urban planning, mobility policies, and innovative participatory governance approaches like urban living labs. Our multidisciplinary team conducts research on climate change impacts, electric vehicles, fuel efficiency norms, transport demand modelling, deployment of clean technology, GHG inventorization, and resilient urban growth.



KEY PARTNERS

Government Bodies: Ministry of Housing and Urban Affairs; Ministry of Road Transport and Highways; Ministry of Railways; Ministry of Heavy Industries; Department of Post; Ministry of Ports, Shipping and Waterways; NITI Aayog; Department of Science and Technology; Bureau of Energy Efficiency; Commission for Air Quality Management; Gujarat Industrial Development Corporation; Directorate of Environment, Uttar Pradesh.

Public Sector: Delhi Metro Rail Corporation; Bangalore Metro Rail Corporation; Container Corporation of India Limited; Energy Efficiency Services Limited.

International Partners: The World Bank Group; International Climate Initiative (IKI); UK's International Climate Finance; Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ); United Nations University for Environment and Human Security (UNU-EHS); Mercedes-Benz Research and Development India (MBRDI); International Solar Alliance.

Academic & Research: IIT Madras; IIT Delhi; IIM Bangalore; SPA Bhopal; National Institute of Urban Affairs; TERI SAS; CEPT University.

City Partners: Coimbatore City Municipal Corporation; Imagine Panaji Smart City Development Limited; Municipal Corporation Shimla; Greater Visakhapatnam Municipal Corporation; Thoothukudi Municipal Corporation; Naroda Industries Association.



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OUR SERVICES

URBAN AND REGIONAL TRANSPORT

- Policy and Regulatory Support
- Efficiency Improvement Strategies
- Multi-modal Transport
- Transport Modelling
- Efficient First and Last Mile Deliveries
- Impact Assessment of Motorized transport
- Scope 3 Emission Inventory
- Transitions for Urban Mobility

LOW-CARBON MOBILITY

- GHG Emission Inventorization
- Freight and Passenger Transport Optimization
- EV Roadmaps
- Green and Sustainable Logistics
- Life Cycle Assessment for Infrastructure
- Assessment for Zero-emission Vehicles
- Solar-based E-mobility Solutions

URBAN GOVERNANCE

- Institutionalizing Urban Living Labs (ULL)
- Vertical and Horizontal Integration for Policy Implementations
- Data Driven Decision Making
- Participatory Governance
- Handholding City Government for Identifying Bankable Projects
- Capacity Building

URBAN CLIMATE RESILIENCE

- Climate Risk and Vulnerability Assessments
- Climate Resilient Spatial Planning
- Policy Gap Assessments
- Monitoring, Reporting and Verification (MRV) Framework for Cities
- Climate Finance and Budget
- Land Management Strategies
- Policy Review and Research Analysis

1. **Policy Research and Analysis** for improved and informed governance and decision making for urban and transport sectors
2. **Strategic Planning** to support urban bodies to build resilient, smart, and sustainable cities, with a focus on developing data-driven, low-emission roadmaps for long-term environmental and operational sustainability
3. **Energy and Environment Analysis** to develop energy and low-carbon emission inventories for cities and transport sectors



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4. **Socio-Economic Assessment** of infrastructure and mobility services
5. **Capacity Building and Stakeholder Engagement** to enhance capability of stakeholders for an informed decision-making
6. **Knowledge Creation and Dissemination** to bridge policy and research gaps
7. **Deployment and Technical Showcase** of latest vehicle technologies and related infrastructure for enhanced understanding and low-carbon mobility future

KEY PROJECTS AND RESEARCH

Policy Research and Analysis



TUGD Whitepaper: Integrating Climate Sensitivity into Urban Planning – Launched at World Urban Forum, this whitepaper presents global best practices for embedding climate resilience and low-carbon strategies into urban planning, offering actionable guidance to city governments.

Gap Assessment studies for Climate Risk and Vulnerability Analysis (CRVA) Shimla – Reviewing existing studies for multi-hazard mapping for Shimla considering IPCC assessment reports to ensure climate resilience.

Roadmap for India's Energy Transition in Transport Sector – Forecasting transport demand until 2070–71 using TERI's in-house transport model, assessing fuel demand and emission reduction impacts of technology-driven mitigation strategies, emphasizing electrification and hydrogen use.



Zero Emission Deliveries for Postal Services – Developing transition roadmap for Department of Posts' Mail Motor Services fleet to EVs across six major cities, addressing on-ground realities and challenges for zero-emission last-mile deliveries. It also involves finalizing the technical terms of reference and deployment of commercial EVs on ground.



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Railway Freight Transportation Strategies – Three-volume study identifying gaps in Indian Railway's freight business model: Terminal Development and Operations, Freight Marketing Policies, and Rail Freight Tariff Policies.

Volume I – Terminal Development and Operations

Volume II – Freight Marketing Policies

Volume III – Rail Freight Tariff Policies

Vehicle Policy Studies – Policy briefs on [biodiesel blending](#), [vehicle scrappage policy](#), [fuel efficiency improvement](#), and emission standards, providing recommendations for strengthening India's transport policies.

Electric Vehicle Readiness Assessment – Conducting city-level analysis of EV planning and deployment in New Delhi, Panaji, Bengaluru and Guwahati, establishing readiness rankings and identifying capacity gaps.

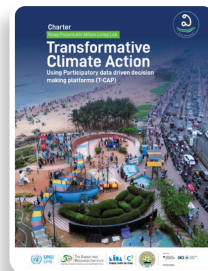


Heavy-Duty Vehicle Electrification – Studying battery electric technology potential in heavy-duty segment, examining impediments to transport sector decarbonization.

Strategic Planning

Integrated Urban Climate Action for Low-Carbon & Resilient Cities (Urban-Act)- Focus on supporting policy transformation (spatial/urban, climate, etc.) methods for evidence-based planning enabling urban climate action. Support to government efforts on climate-sensitive planning, participation/civil engagement, social inclusion, digitalization, community-based approaches, holistic & coherent planning, etc.

Transformative Climate Action (T-CAP) – Working with NIUA & UNU-EHS, developed a participatory framework for data-driven decision-making in Visakhapatnam, establishing Vizag-Prajamukhi Urban Living Lab (V-PULL) for innovative urban solutions.



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Transition Road Map for Sustainable and Efficient Transport for GIDC Naroda

Planning targeted interventions—like freight electrification, multimodal integration, and infrastructure upgrades—to build a sustainable, resilient transport system for GIDC Naroda.

Urban Living Lab in Panaji, Goa – Serving as Knowledge Partner to Royal Danish Embassy, focusing on sustainable mobility, urban flooding management, water bodies management, and data-driven planning. The knowledge products included flood mitigation plan, inclusive streets guidelines and cycle for change policy document.

Skills and Jobs Assessment – Conducting comprehensive evaluation of job impacts and skill gaps in transitioning from ICE to electric trucks across Delhi/NCR, Chennai, Pune, and Bengaluru.

Non-Urban Road Transport in India – A report diving into the heavy-duty vehicle market, baseline emissions and energy efficiency in trucking sector.

Musi River Front Development – Regenerating multi-modal transit hubs along Musi River corridor in Hyderabad through land management strategies and transit-oriented development.

Partnering for Advancing Carbon - neutral Transitions (PACT-Digi-PULSE) – Developing sustainable urban strategies for Thoothukudi focusing on climate-integrated planning, data-driven approaches, and climate finance acceleration.

Intracity and Intercity Operation – Deployment of Electric Two Wheelers for Department of Post's (DoP) last-mile delivery operations and roadmap for electrification of intercity operations of road transport network involving medium and heavy-duty vehicles.



Energy and Environment Analysis

CONCOR-TERI Centre of Excellence – Establishing Centre of Excellence with Container Corporation of India Limited (CONCOR) for Green and Sustainable Logistics, focusing on freight transport decarbonization through modal shift, promoting green warehousing through GRIHA rating system and leveraging carbon market.

Mission Innovation 2.0 Secretariat – Supporting Department of Science and Technology in clean energy innovation collaborative initiatives.

Green Ports and Shipping – Aiming to identify current procedures of port calls and developing Just-in-Time arrival systems for ships to reduce fuel consumption and emissions.

Note: Green Rating for Integrated Habitat Assessment (GRIHA) has been adopted as the national rating system for green buildings by the Government of India

Freight GHG Calculator – Developing tool quantifying environmental impact of freight transportation across rail, road, inland waterways, and domestic air on Well-to-Wheel basis.

DMRC CarbonLite Metro Initiative – Supporting Delhi Metro's awareness campaign on carbon emission reductions, providing detailed CO₂ emissions data comparing metro with motorized road transport.

Socio-Economic Assessment

Impact Evaluation of E-Cycles on the Livelihoods of Self-Help Group Members in Bihar – Assessing impact on the livelihoods of Self-Help Group women through the distribution of 500 E-Cycles in the districts of Patna, Vaishali, and Muzaffarpur in Bihar. Also developing socio-demographic profiles and evaluating environmental benefits through CO₂ emission reduction.

Socio-economic & Environmental Impact assessment of e-buses in Panaji – The study aims to conduct a short-term, focused assessment of the impact of electric bus operations in Panaji, examining stakeholder experiences, operational efficiency, and environmental benefits through commuter perception survey.

Delhi Metro Benefits Assessment – Evaluating socio-economic benefits of Delhi Metro's three phases, including fuel and time savings, commuter satisfaction, and mode choice factors.

GreenCell Operations Assessment – Conducting comprehensive socio-economic survey of intracity and intercity bus services, examining convenience, safety, time savings, and accessibility impacts on commuters.



Capacity Building and Stakeholder Engagement

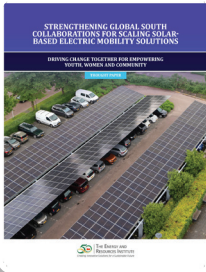


Empowering communities and fostered resilience against climate change through Jan Mela in Visakhapatnam aimed to empower local communities and foster resilience against climate change through sustainable waste management practices.

Knowledge Creation and Dissemination

E-Certificate Course on Urban Climate Action – Developed with European Union IURC programme, building capacity for effective decision-making and urban policy formulation on climate change.

Knowledge Partner for Urban Living Labs in Indian Cities to enhance the capacities of the existing smart cities through knowledge-sharing and integration of global sustainable solutions in the local context.

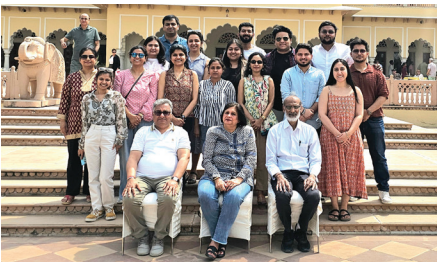


Global South Solar-Based E-Mobility – Released thought paper at COP29 on strengthening collaborations for scaling solar-based electric mobility solutions, focusing on youth, women, and community empowerment.

International Conferences and Exhibitions – Organized technological showcases at CEM14/MI8 Goa, International Solar Festival, and multiple sessions at World Urban Forum, highlighting cutting-edge technologies and zero-emission vehicles.

EV Education and Outreach – Publishing expert articles on EVpedia, organizing EV meet-ups with 50+ owners, and hosting roundtable discussions on urban freight logistics.

Academic Engagement: Conducting lectures at TERI School of Advanced Studies, International Centre for Environment Audit and Sustainable Development (iCED), etc. on sustainable transport, green mobility, urban climate adaptation and governance issues.



Contact Us

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