CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

Eco-Friendly Transportation Policy

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Charotar University of Science and Technology

CHARUSAT Campus, Off. Nadiad - Petlad Highway, Changa-388421

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1. Preamble

Transportation plays a significant role in the environmental footprint of any institution. Charotar University of Science & Technology (CHARUSAT), Changa recognizes that sustainable travel in a rural setting requires balanced, inclusive and context sensitive solutions and also acknowledges the importance of reducing the carbon emissions arising from travel associated with the University activities, prompting sustainable mobility, and minimizing environmental impact through eco-friendly transportation practices. This Eco-Friendly Transportation Policy outlines CHARUSAT's commitment for implementing and promoting sustainable transportation solutions within the University campus. This policy aims to encourage responsible, inclusive and practical travel choices without compromising accessibility, safety, academic and administrative effectiveness. This policy aligns with global sustainability commitments, particularly the UN Sustainable Development Goals 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action)[1]. The policy also conforms to NITI Ayog Transport Policy, which states that 'Transitioning to a shared mobility future will allow India to build a transportation system that is more efficient, cleaner, and meets the needs of its growing population' by encouraging the shared transportation[2].

2. Scope

This policy applies to:

- All teaching and non-teaching staff members, students, visitors, vendors and transportation service providers.
- The below given activities
  - Daily commuting to and from the University.
  - Official University travel for teaching, learning, research, training, events and administration, etc.
  - Student group travel /tours organized or supported by the University.
- University owned vehicles
- Availing services of outside transport vehicles
- Eco-friendly commuting initiatives like Cycling, Walking, Electric Vehicles (EVs) and shared/public transport.

3. Objectives

The objectives of the policy are:

- To optimize the need for travel
- To reduce dependence on fossil fuel vehicles
- To reduce carbon emissions by transport vehicles
- To encourage and promote zero emission transport
- To facilitate convenient and affordable commuting facilities
- To encourage vehicle sharing, cycling, and walking
- To create awareness about sustainable mobility initiative

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[1] https://sdgresources.relx.com/tags/sustainable-transport
[2] https://www.niti.gov.in/sites/default/files/2023-02/Shared-mobility.pdf

4. Definitions

1. **Sustainable Transportation / Sustainable Mobility** - Transportation methods that meet current travel needs while minimizing environmental damage and ensuring long-term benefits for people and the planet.

2. **Carbon Emissions** - Carbon emissions mean the release of carbon compounds, primarily carbon dioxide (CO_2) and methane (CH_4), into the atmosphere, mainly from burning fossil fuels (coal, oil, gas) for energy, industrial processes, and transportation, which traps heat, causing the greenhouse effect and global warming.

3. **Environmental Footprint** - An environmental footprint is a measure quantifying the impact of human activities (individual, company, or product) on the planet, showing resource consumption and waste generation, often expressed as the land area needed to support it, comparing demand against Earth's regenerative capacity to gauge sustainability.

4. **Eco-Friendly Transportation** - Eco-friendly transportation, or green transport, means moving people and goods using methods that minimize harm to the environment by cutting greenhouse gases, pollution, and fossil fuel dependence, focusing on electric vehicles, public transit, walking, biking, and efficient systems to create a healthier, more sustainable future.

5. **Zero-Emission Transport** - Transport modes that do not produce direct exhaust emissions, such as walking, cycling, and electric vehicles.

6. **Greenhouse Gas Emissions** - GHG (Greenhouse Gas) emissions are gases like carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) released into the atmosphere, primarily from human activities such as burning fossil fuels, industrial processes, and agriculture, which trap heat and intensify Earth's natural greenhouse effect, leading to global warming and climate change. These emissions act like a blanket, warming the planet beyond natural levels.

7. **Reduce–Shift–Improve Approach** - It is a strategy for sustainable development, especially in transport, focusing on reducing environmental impact by first Reducing unnecessary resource use/travel (e.g., better city planning), then Shifting to more sustainable options (e.g., walking, cycling, public transit), and finally Improving the efficiency and technology of remaining activities (e.g., electric vehicles).

8. **Sustainable Travel Hierarchy** - A ranking of travel options based on environmental impact, prioritizing no travel, walking, cycling, public transport, and shared vehicles over private single-use vehicles.

9. **Single-Occupancy Vehicle** - A private vehicle used by only one person for commuting.

10. **Shared Mobility / Shared Transport** - Transportation systems where vehicles are shared by multiple users, such as buses, carpools, and ride-sharing services.

11. **E-Mobility** - Transportation using electric-powered vehicles such as e-bikes, e-rickshaws, and electric campus vehicles.

12. **Key Performance Indicators (KPIs)** - Measurable values used to assess how effectively transportation goals are being achieved.

13. **Bus Occupancy** - The number of passengers using a bus compared to its seating capacity.

5. Guiding Principles

1. **Carbon Reduction**: Minimize greenhouse gas emissions arising from University-related travel.
2. **Rural Sensitivity**: Acknowledge limited public transport availability in rural areas and adopt realistic, phased solutions.
3. **Reduce–Shift–Improve Approach**:
   a. Reduce the need to travel where possible
   b. Shift to lower-carbon modes of transport
   c. Improve efficiency of unavoidable travel
4. **Equity and Inclusion**: Ensure no student or staff member is disadvantaged due to physical ability, gender, safety concerns, caregiving responsibilities, or location.
5. **Health, Safety, and Wellbeing**: Prioritize personal safety and wellbeing in all travel-related decisions.

6. Sustainable Travel Hierarchy

The following hierarchy should guide decision-making (from most to least preferred):
1. No travel (online/virtual alternatives wherever possible)
2. Walking and cycling
3. Public transport (bus, shared university transport)
4. Carpooling / shared vehicles / vehicles using alternative fuels
5. Single-occupancy private vehicles (as a last resort)

7. Commuting to Campus

Students

Recognizing that many students commute from nearby towns and villages, the University encourages shared transport options, including:
- University-operated or University-facilitated bus services from key locations.
- Student carpooling and ride-sharing initiatives.
- Secure bicycle parking, with scope for gradual development of cycling-friendly infrastructure.

Faculty and Staff members
- Faculty and staff shall be encouraged to:
  o Use shared transport or carpooling
  o Opt for fuel-efficient or low-emission vehicles wherever possible
- Priority parking shall be provided for carpool vehicles.

8. University Transport Services

To support implementation of sustainable mobility in a rural context, CHARUSAT shall monitor:

- The progressive optimization of University bus services and University affiliated bus services to reduce reliance on individual vehicles.
- Periodic review of routes and schedules based on demand.
- Periodic maintenance of vehicles
- The encouragement of high occupancy levels in University transport through awareness and incentives.
- Ensuring compliance with all applicable statutory and regulatory requirements, including valid RC, insurance, PUC certification, fitness certificates, and valid driving licenses, as prescribed by competent transport authorities.
- In case of non-compliance, the concerned individual or vehicle owner shall be duly informed and required to undertake corrective measures within a stipulated timeframe, failing which appropriate institutional action, including temporary restriction of campus vehicular access, may be initiated as per University norms.

9. Cycling and Walking Infrastructure

The CHARUSAT shall:

- Provide safe and well-lit pedestrian pathways within the campus.
- Provide bicycle parking spaces at key academic and residential locations.
- Promote cycling safety through orientation programmes.

10. Travelling for Assigned Work | Events | Any other Duty

- Travel should be undertaken only if it is unavoidable considering financial cost, carbon impact, and wellbeing.
- Field visits, study tours, and industrial visits should prioritize shared transport.
- Departments/Institutes should plan group travel efficiently to avoid multiple vehicles for the same activity.
- Safety and inclusivity must remain paramount in all student travel decisions.

11. Electric Vehicles (EVs) and Future Initiatives

The CHARUSAT shall progressively:

- Expand the fleet of existing EVs for transportation within campus.
- Explore installation of EV charging points on campus.
- Encourage University transport service providers and other vendors to use eco-friendly vehicles.

12. Policy Measures

1. **Optimize need for travel**
   - Minimize multiple trips to same location within or outside campus on the same day by effective scheduling.
   - Encourage students and staff to reside in the campus or in nearby areas.
2. **Optimize the dependence on fossil fuel vehicles**
   - Encourage carpooling among faculty and staff members
   - Designate areas in campus as pedestrian only.

- Earmark safe bicycle lanes across campus and promote use of bicycle.

3. **Encourage and promote zero emission transport**
   - Encourage usage of battery operated vehicles, cycling and walking for movement within campus.
   - Give priority parking for EVs
   - Encourage use of e-bikes or e-rickshaws in and around campus.

4. **Provide convenient and affordable commuting facilities**
   - Encourage fuel efficient and environmental friendly bus services for faculty, staff and students also helping to reduce dependency on individual vehicles.
   - Ensure transportation systems comply with RTO norms, safety and sustainability standards.
   - Accessibility for persons with disabilities.

14. Awareness, Communication, and Engagement about sustainable mobility initiatives

- Awareness campaigns on safe and sustainable transportation and benefits.
- Sustainability related student clubs and committees to support travel initiatives.
- Clear signage and communication to guide users towards sustainable transport options.
- Embedding sustainable transport in curriculum.
- Staff and drivers trained in eco-friendly practices to reduce emissions.
- Devising innovative green mobility solutions (such as solar charging systems, AI-based route optimization and shared e-mobility services).

15. Implementation Strategy

- Establish an **Eco-friendly Transportation Committee** (Please refer attached **Annexure**) comprising of the Transport Manager of University, one official from Estate Department, two faculty members with Environment/Sustainability and Transportation / Electric Vehicle specialization / domain/ aspect, Representative from Equal Opportunity Cell and Officials from the Regional Transport office & Traffic Police responsible for effective implementation, monitoring and taking corrective actions in case of non-compliance.

16. Monitoring and Review

- The Eco-friendly Transportation Committee shall deliberate and decide regarding the following aspects
  - Monitoring transport records, and feedback mechanisms to track progress.
  - Monitoring of Key Performance Indicators (KPIs) like vehicle usage, bus occupancy, % of EV adoption in the campus and emissions trends.
  - Conducting periodic travel surveys to understand commuting patterns.
  - Reviewing the policy every three years or earlier, if required.

17. Conclusion

By implementing Eco-friendly Transportation Policy and engaging stakeholders at all levels, the University aims to reduce its environmental impact while ensuring accessibility and wellbeing for its academic community, which will create a more sustainable and livable campus environment for the benefit of present and future generations.

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Annexure
Roles and Responsibilities of the Eco-friendly Transportation Committee

(A) Composition of the Committee

The Eco-friendly Transportation Committee shall comprise:

- Chairperson/Convener
- Transport Manager, University
- Representative from Estate Department
- Two Faculty Members (Environment | Sustainability | Transportation | Electric Vehicle aspect)
- Representative from Equal Opportunity Cell
- Representatives from Regional Transport Office (RTO) and Traffic Police (as and when required)

(B) Roles and Responsibilities of the various committee members

Chairperson / Convener (Nominated by the University)

- Provide overall leadership and direction to the Committee.
- Convene and preside over meetings of the Committee.
- Ensure effective implementation of the Eco-Friendly Transportation Policy.
- Facilitate coordination among various departments and external agencies.
- Present periodic progress reports to the University authorities and IQAC.

Transport Manager, University

- Oversee day-to-day implementation of sustainable transport initiatives.
- Monitor University-owned and affiliated transport services for efficiency and compliance.
- Optimize routes, schedules, and occupancy of University buses.
- Ensure regular maintenance of transport vehicles to minimize emissions.
- Maintain records related to vehicle usage, fuel consumption, and emissions data.

Estate Department Representative

- Plan and maintain physical infrastructure related to transportation within campus.
- Ensure development and upkeep of pedestrian pathways, cycling tracks, parking areas, and EV charging infrastructure.
- Coordinate installation of signage and safety measures across campus.
- Support implementation of pedestrian-only and low-traffic zones.

Faculty Member (Environment | Sustainability | Transportation Engineering)

- Provide technical guidance on transport planning, traffic management, and sustainable mobility practices.
- Assist in conducting travel surveys, data analysis, and performance assessment.
- Support development of Key Performance Indicators (KPIs) related to transport efficiency and emissions.

Faculty Member (EV Specialization)

- Advise on electric vehicle technologies, charging infrastructure, and energy efficiency.
- Support planning and implementation of EV-related initiatives on campus.
- Explore and evaluate feasibility of e-mobility solutions such as e-buses, e-bikes, and e-rickshaws.
- Promote integration of renewable energy with EV infrastructure where feasible.

Representative from Equal Opportunity Cell

- Providing inputs to ensure that the policy remains inclusive and considerate of the diverse needs of stakeholders, with due attention to accessibility, fairness, and equal opportunity in its implementation.

External Members (RTO / Traffic Police – Advisory Role)

- Provide regulatory guidance related to transport laws, safety norms, and traffic management.
- Support awareness programmes on road safety and sustainable transport practices.
- Assist in aligning University transport initiatives with regional and state transport policies.
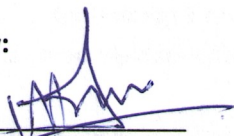
Collective Responsibilities of the Committee

- Monitor implementation of the Eco-Friendly Transportation Policy.
- Review progress using measurable indicators such as vehicle usage, bus occupancy, EV adoption, and emissions trends.
- Conduct or oversee periodic travel surveys and stakeholder consultations.
- Ensure transportation systems and infrastructure are inclusive and accessible.
- Recommend corrective actions and continuous improvement measures.
- Review and update the policy periodically, or as required, in line with institutional and regulatory needs.

Note:

The Committee may invite subject experts, student representatives, or external consultants as special invitees whenever required.

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