

## PRESS RELEASE

### Title 1: Small Fleet, Big Impact: Super-Emitters Drive Punjab's Transport Pollution

### Title 2: 3 lakh vehicles in Punjab may qualify for scrappage, finds study

*For Immediate Release*

#### Key highlights

- Punjab has approximately 3 lakh vehicles that may qualify for scrappage, for which the state requires 15 operational registered vehicle scrapping facilities (RVSFs).
- With only five operational RVSFs in the state, an investment of about INR 140 crore would be needed to build 10 more RVSFs.
- With an estimated cost of INR 2 crore per setup, installing remote sensing units at major entry and exit points of cities and industrial corridors and linking them with the vehicle registration portal could significantly reduce the regional PM<sub>2.5</sub> load.
- Retrofitting Bharat Stage IV heavy commercial vehicles is estimated to cost around INR 50,000 per vehicle.

**Bengaluru, 21 August 2026:** Super-emitters (SEs), which are vehicles that pollute far more than normal vehicles, account for only 11%–28% of Punjab's vehicular fleet. However, they contribute to more than 70% of the state's transport emissions. This high-emitter paradox is highlighted by a study titled 'Pathways for Clean Transportation in Punjab' by a research-based think tank, the Center for Study of Science, Technology and Policy (CSTEP).

The study that was released at the India Clean Air Summit (ICAS) 2026 on Friday focused on the role of SEs due to their higher emission factors (typically 4–11 times those of non-super-emitters). It analysed Punjab's vehicular fleet and the emission profile using category-wise, district-wise, and Bharat Stage (BS)-wise estimates.

Swagata Dey, who leads the Air Quality Policy and Outreach group at CSTEP, says, 'The state has shown the way for electrification of auto rickshaws and passenger vehicles. However, older legacy heavy commercial vehicles (HCVs) emit disproportionately more and will have to be tackled by isolating and addressing SEs, for Punjab to achieve clean transport systems.'

The study found that although HCVs make up just 1.6% of Punjab's total vehicle fleet, they emit 2,102 tonnes of particulate matter (PM<sub>2.5</sub>) annually. In contrast, two-

wheelers account for a majority of Punjab's vehicle fleet but contribute only 228 tonnes/year of PM<sub>2.5</sub> emissions.

As part of the study, surveys were conducted across six districts—Patiala, Ludhiana, Amritsar, Jalandhar, Moga, and Hoshiarpur. They showed that the majority of vehicles (89%) plying on the road were registered in Punjab, indicating that a strong state-level regulatory framework could significantly reduce transport emissions.

Survey data also revealed that vehicles aged 10–15 years continue to ply across categories, especially among three-wheelers and the commercial fleet. Further, major cross-district vehicle movement occurs within Punjab, suggesting that the current city-specific approach, as enshrined in the National Clean Air Programme, may not be best suited to addressing Punjab's vehicular emissions.

The study calls for targeted interventions rather than uniform fleet-wide measures to address the fleet emissions imbalance, in which most vehicles comply with emission norms, but a few poorly maintained HCVs dominate overall emissions.

Focused policies on SEs, including strengthened inspection, scrappage, and retrofitting, can deliver significant emission reductions. Extending a similar regulatory focus to non-road diesel vehicle sources, such as agricultural machinery, and enhancing real-time monitoring and enforcement will further amplify the impact.

A cleaner transport future in Punjab will require a combination of data-driven regulation, targeted interventions, and infrastructure investment. With over 89% of vehicles being locally registered, state-level enforcement of age-based retirement, low-emission zones, and retrofitting of BS-IV HCVs can yield substantial emission reductions.

Read the full report [here](#).

For more details and interviews, please write to us at [cpe@cstep.in](mailto:cpe@cstep.in)

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interdisciplinary research cuts across energy, air quality, climate, development, and technology. CSTEP provides policy recommendations to governments, industries, and not-for-profit organisations for informed decision-making. We actively participate in government committees and collaborate with national and international research institutions to create a comprehensive understanding of policy challenges and solutions for India's sustainable development.

**About Air Quality Sector:** The Air Quality Sector at CSTEP supports government bodies in science-based air quality management at the city, state, and regional levels. We apply a wide range of advanced measurement and modelling tools to inform air pollution mitigation strategies.

**About ICAS:** The India Clean Air Summit (ICAS) is CSTEP's flagship event on improving air quality in India. Every year, ICAS brings together researchers, policymakers, practitioners, and academics from across the globe to discuss the air we breathe.