

Press Release

Framework for Identifying Locations for Setting Up Public Charging Stations for Electric Vehicles

For Immediate Release

With pressure mounting on countries including India to address climate change by shifting to clean technologies, the significance of electric mobility to counter emissions cannot be ruled out. While the benefits of the said move are substantial, the uptake of electric vehicles (EVs) in India has been lethargic at best. In a city such as Bengaluru, with a vehicle population of 80 lakh, the share of EVs is 1%–2%.

Driving range anxiety, high upfront costs, and a lack of public charging infrastructure are major contributing factors that have stunted the growth of EVs. Of the three, developing a public charging infrastructure is particularly important as it is directly linked with driving range anxiety.

The Center for Study of Science, Technology and Policy (CSTEP) published its latest study on this topic on 20 October 2021. **Titled *Location Planning for Public Electric Vehicle Fleet Charging Stations*, the study focuses on identifying ideal locations for setting up public charging infrastructure in Bengaluru.**

Intermediate public transport (IPT) and public transport (PT) segments were selected for the study as the distance travelled by these segments per day is higher than the existing battery range of these segments. The fuel consumption and emissions from these segments are also high as they cover more distance on a daily basis than other segments. For private vehicles usually a one-time full charge suffices for daily requirement, with this charging happening mostly at residences.

CSTEP realised that land use, traffic pattern, transport network, vehicle characteristics, and grid infrastructure are the deciding factors in identifying charging locations and a scalable and replicable framework was developed to identify future charging locations in Bengaluru. Wards with high-density corridors, high population density, common origin and destinations, no existing charging stations, existing or proposed BESCO sub-stations, and public parking lots are suitable for installing public charging stations. Government land, government parking lots, and cab or auto aggregators' parking lots could be targeted to reduce the real-estate cost and capture demand.

Different financial models such as collaborations between stakeholders (electricity utilities and cab aggregators, public transport providers, commercial establishments, etc.) could be explored to help reduce the burden on public utilities and increase revenue generation and the utilisation rate of public charging stations.

Karnataka is at the forefront of the EV revolution in India, with the state government's Karnataka Electric Vehicle and Energy Storage Policy, 2017, targeting 100% EV penetration in the IPT segment in Bengaluru by 2030. However, considering the low rate of EV adoption in the city, a phased approach in setting up public charging stations would be advisable to tackle the issue of low utilisation.

Setting up EV charging stations in existing public parking lots could reduce the cost burden of the Government for land acquisitions. Tie-ups with public and intermediate public transport entities could also increase the utilisation of public EV charging stations.

With the right interventions, a robust public charging infrastructure can be developed in the city to reduce range anxiety and drive EV adoptions.

To read the entire report, please click [here](#). For researcher quotes, please mail us at cpe@cstep.in

About CSTEP

Headquartered in Bengaluru, the Center for Study of Science, Technology and Policy (CSTEP) is one of India's leading think tanks with a mission to enrich policymaking with innovative approaches using science and technology for a sustainable, secure, and inclusive society. CSTEP's areas of focus are Climate, Environment and Sustainability, Energy and Power, AI and Digital Labs, Materials and Strategic Studies, and Computational Tools.