

Data Collection and Preprocessing Phase


Date	15 March 2025
Team ID	LTVIP2025TMID26729
Project Title	Visualization Tool for Electric Vehicle Charge And Range Analysis In Tableau
Maximum Marks	2 Marks




Data Collection Plan & Raw Data Sources Identification Template

Data Collection Plan Template

Section	Description
Project Overview	To develop an Interactive visualization demonstrating the impact of temperature and driving style on range. Visualizations analyzing charging infrastructure utilization and explore how factors like temperature, driving style, and terrain impact range.
Data Collection Plan	A robust data collection plan is crucial for a successful Tableau visualization tool focused on electric vehicle.
Raw Data Sources Identified	Data collected from onboard vehicle systems offering real-time data on station locations, availability, and charging speeds.

Raw Data Sources Template

Source Name	Description	Location/URL	Format	Size	Access Permissions
Cheapest Electronic Cars	Leading the charge is the MG Comet EV, a highly compact city car designed for easy manoeuvrability and efficient urban commuting. Tata Motors has also made significant strides with models like the Tata Tiago EV and the Tata Punch EV, offering more traditional vehicle designs with varying battery options to suit different needs	 Cheapestelectriccars-EVDatabase.csv	CSV	26 KB	Public

Electronic Vehicle Charging Station	These stations provide the necessary power to replenish the batteries of electric vehicles, offering varying levels of charging speed and convenience. Level 1 charging, the slowest, typically uses a standard household outlet, while Level 2 charging significantly reduces charging time through higher voltage connections. DC fast charging, the quickest option, delivers high-power direct current, allowing for rapid battery replenishment, often suitable for long-distance travel.	 electric_vehicle_charging_station_list.csv	CSV	44 KB	Public
Electric Car Data	Electric car data encompasses a wide range of specifications and performance metrics crucial for understanding and comparing these vehicles. Key data points include battery capacity, measured in kilowatt-hours (kWh), which directly impacts the vehicle's range. Range itself, typically expressed in miles or kilometres, varies based on testing standards like EPA or WLTP and is influenced by factors like driving conditions and temperature. Energy consumption, often represented as watt-hours per mile (mile) or kilometre (km), indicates the vehicle's efficiency. Charging capabilities are also vital, detailing AC and DC charging speeds, connector types (CCS, CHAdeMO, Tesla), and charging times.	 ElectricCarData_Clean.csv	CSV	8 KB	Public
EV India	The electric vehicle (EV) market in India is experiencing rapid growth, driven by increasing environmental awareness, government initiatives, and technological advancements. The Indian government has actively promoted EV adoption through policies like the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles (FAME) scheme, offering subsidies and incentives to both manufacturers and consumers. This push has led to a surge in the availability of electric two-wheelers, three-wheelers, and passenger cars, with both domestic and international manufacturers investing in the Indian market. Urban areas, particularly, are witnessing a rising number of charging stations, although infrastructure development remains a crucial area for further expansion.	 EVIndia.csv	CSV	1 KB	Public