

# **VoltPath – Problem Statement**

Electric vehicle (EV) users often experience range anxiety due to uncertainty in battery consumption and the availability of charging infrastructure during long-distance travel. While traditional navigation systems provide distance and route information, they do not consider vehicle-specific parameters such as battery capacity, efficiency, and energy consumption. This lack of intelligent trip planning makes it difficult for EV drivers to confidently undertake intercity journeys without the risk of battery depletion. The objective of VoltPath is to address this challenge by creating a system that calculates energy usage, identifies safe driving range, and optimizes charging stops along the route. By combining route data with battery simulation, VoltPath enables EV users to plan trips efficiently, estimate charging time and cost, and travel with greater confidence.