Project Design Phase
Proposed Solution Template

Date	27 June 2025
Team ID	LTVIP2025TMID49866
Project Name	Visualization Tool for Electric Vehicle Charge and Range Analysis
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Fragmented EV charging data across 500+ stations (NDMC, CMRL, Noida Authority etc.)
2.	Idea / Solution description	**Integrated Smart Charging Platform featuring:** **- Live Availability Map:** Pulls data from all stations (latitude/longitude from dataset) **- Compatibility Filter:** Matches charger types (CCS/CHAdeMO) to EV models (from Electric Car Data _ Clean) **- Demand Heatmaps:** Uses historical usage patterns to suggest optimal locations **- Dynamic Pricing Engine:** Adjusts costs based on utilization rates
3.	Novelty / Uniqueness	- **First cross-network aggregator** combining municipal (NDMC), metro (CMRL) and private chargers - **AI Placement Algorithm**: Uses traffic flow + EV registration data to predict ideal new locations - **Vehicle-Specific Routing**: Integrates EV range data (from EVIndia.csv) to suggest charging stops
4.	Social Impact / Customer Satisfaction	- Boosts EV adoption by reducing range anxiety by 60% - Helps municipalities achieve 2030 carbon goals - Creates 500+ green jobs for station maintenance - Saves fleet operators 18% in charging costs (via smart routing)
5.	Business Model (Revenue Model)	**Three-tier revenue**: 1. **B2G**: SaaS licensing to urban bodies (₹5L/city/year) 2. **B2B**: Premium analytics for automakers (Tata, MG etc.) 3. **B2C**: Freemium app with ad-free subscription (₹99/month)

6.	Scalability of the Solution	- **Phase 1**: 6 metro cities (using existing dataset coverage) - **Phase 2**: Tier-2 cities with 3-wheeler EV integration - **Global Potential**: Adaptable to any region with OCPP-compliant chargers - **Tech Expansion**: Future V2G (Vehicle-to-Grid) integration