Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	16 June 2025
Team ID	**LTVIP2025TMID38998**
Project Name	TrafficTelligence Advanced Traffic Volume Estimation With Machine Learning
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Input	Upload CSV traffic data Real-time camera data stream
FR-2	Data Preprocessing	Handle missing values Convert timestamps Feature engineering
FR-3	Model Training	Train ML model with past traffic data Split into training and test datasets
FR-4	Traffic Volume Prediction	Predict volume based on time/weather/location Show predictions on dashboard
FR-5	Visualization & Reporting	Graphs for traffic patterns Volume trends Export reports as CSV/PDF
FR-6	User Dashboard	Interactive dashboard with charts Filter by date/location

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Interface must be simple and intuitive for both technical and non-technical users.
NFR-2	**Security**	Ensure user authentication, secure data storage, and protection against SQL injection and XSS.
NFR-3	**Reliability**	System should provide consistent predictions and handle input errors gracefully.
NFR-4	**Performance**	ML model should return predictions within 2–3 seconds under normal load.
NFR-5	**Availability**	Platform must be available 95% of the time during peak traffic hours.
NFR-6	**Scalability**	Capable of handling increasing data volume and more user requests in the future.