

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

Date	24 June 2025
Team ID	LTVIP2025TMID35493
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	User Data Upload	- Upload traffic CSV files
FR-2	Data Preprocessing	- Clean and normalize traffic data
FR-3	Traffic Pattern Analysis	- Apply trained ML model to predict congestion
FR-4	Result Visualization	-Display results in graphs/charts
FR-5	Model Training (Admin)	- Train models using historical traffic datasets
FR-6	Authentication	- User login system
FR-7	Dashboard	- Interactive dashboard for result insights
FR-8	Report Generation	-Generate PDF reports for analyzed datasets

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Interface should be intuitive and suitable for traffic analysts and municipal planners.
NFR-2	Security	Secure file uploads, use HTTPS, and implement authentication for access control.
NFR-3	Reliability	Ensure accurate predictions and robustness against bad or incomplete data files.
NFR-4	Performance	Analyze a dataset and show predictions within 5 seconds (for average-sized files).
NFR-5	Availability	Application should maintain 99.5% uptime and ensure reliable performance during usage spikes.
NFR-6	Scalability	Should scale to handle high traffic from multiple users uploading large datasets.