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

Date	31 January 2025
Team ID	LTVIP2025TMID36498
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	4 Marks

TrafficTelligence - Solution Requirements

Functional Requirements

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Traffic Volume Estimation	Ingest and process historical traffic data Apply ML models to estimate traffic volume
FR-4	Real-Time Traffic Prediction	Use real-time data (e.g., sensors, GPS) to predict traffic flow
FR-5	Dynamic Traffic Management Interface	Generate insights for traffic signal timing and lane reconfiguration
FR-6	Urban Planning Support	Forecast long-term traffic trends for infrastructure development
FR-7	Commuter Guidance & Navigation Integration	Provide route suggestions based on predicted traffic volumes
FR-8	Event & Weather Data Integration	Incorporate events and weather into traffic predictions

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3		
FR-4		

Non-Functional Requirements

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Interface should be intuitive for both city officials and general users
NFR-2	Security	Secure access to user data and system inputs (traffic data, user credentials)
NFR-3	Reliability	System must consistently provide accurate traffic estimations
NFR-4	Performance	Predictions and updates should be generated with low latency in real-time
NFR-5	Availability	System should be available 24/7 with minimal downtime
NFR-6	Scalability	Able to scale with increased data volumes (e.g., city-wide deployments)
NFR-7	Interoperability	Capable of integrating with existing traffic management and navigation systems
NFR-8	Maintainability	Should allow easy updates to machine learning models and data pipelines

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	
NFR-2	**Security**	
NFR-3	**Reliability**	
NFR-4	**Performance**	
NFR-5	**Availability**	
NFR-6	**Scalability**	