**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 31 January 2025 |
| Team ID | LTVIP2025TMID45799 |
| 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.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Traffic Volume Prediction | Input features: temperature, rain, snow, weather, hour, day, month, weekday |
|  |  | Predict traffic volume using trained ML model |
| FR-2 | Visualization of Results | Display predicted traffic volume |
| FR-3 | Logs & History | Store and display past prediction records |
|  |  | Allow download/export of log files (e.g., CSV) |
| FR-4 | Admin Utility (Optional/Future Scope) | Interface for managing logs and monitoring system activity |

**Non-functional Requirements:**

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | Usability | User-friendly interface to input data and view results |
| NFR-2 | Security | Secure access to logs and backend (planned as future scope) |
| NFR-3 | Reliability | Consistent predictions from well-trained model |
| NFR-4 | Performance | Low-latency predictions using lightweight Flask application |
| NFR-5 | Availability | Hosted on cloud/server to allow frequent access by users |
| NFR-6 | Scalability | Can be expanded to include live traffic data, GPS integration, etc. |