□ Project Design Phase:

3.1Problem – Solution Fit Template

Date	23 june 2025
Team ID	LTVIP2025TMID41942
Project Name	Traffic telligence : advanced traffic volume estimation with machine learning
Maximum Marks	5 Marks

□ Problem Statement

Urban areas experience **frequent traffic congestion**, leading to delays, increased fuel consumption, and pollution. However, most cities lack a predictive system that estimates traffic volume in advance based on factors like weather and time.

□ Proposed Solution

TrafficTelligence is a machine learning-based web application that predicts traffic volume in real-time based on user-inputted weather conditions. It enables smarter planning, early warnings, and better traffic management through accurate volume predictions.

□ Who Is Facing This Problem?

- **Urban commuters**
- **City traffic management departments**
- **Logistics and transportation companies**
- **Ride-sharing platforms (e.g., Uber, Ola)**

🎯 Customer Needs

- Forecast traffic volume before starting a trip
- Optimize logistics and delivery schedules
- Improve traffic flow and reduce congestion
- Reduce fuel usage and time loss

🔍 Why This Solution Fits

- Uses **historical traffic + weather data** to train an accurate ML model
- Can be accessed via a **simple web interface**
- Delivers **real-time predictions** based on current or forecasted weather
- Fully customizable and extendable for real-world deployment

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🛠 How It Works

1. User inputs: temperature, rain, snow, clouds
2. The ML model predicts traffic volume instantly

3. Prediction is shown on a clean UI for easy interpretation