Project Planning Phase

Project Planning Template

Date	28 JUNE 2025
Team ID	LTVIP2025TMID59766
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	4 Marks

Project Planning:

Step	Description
Problem Definition	- Understand the problem.- Define clear objectives (e.g., predict traffic volume).
Requirement Analysis	- Gather functional & technical requirements.- Data needs, algorithms, UI, infrastructure.
Data Collection	- Collect data from sensors, APIs, CSVs, government portals, etc.
Data Preprocessing	- Clean data, handle missing values, normalize, split into train/test.
Model Selection	- Choose algorithms suitable (e.g., Decision Trees, Random Forest, Neural Networks).
Model Development	- Train the model using the training dataset.- Tune hyperparameters.
Model Evaluation	- Test model using test data.- Use metrics: Accuracy, RMSE, MAE, etc.
Deployment Planning	- Decide deployment method (Cloud, Web, API, Mobile App).
UI/UX Development	- Design the user interface for inputs and predictions.- Connect UI with backend model.
Testing (Functional & Performance)	- Conduct UI testing, API testing, load testing, model validation.

Step	Description
Deployment & Release	- Deploy the model.- Setup cloud/server.- Release to users.
Monitoring & Maintenance	- Monitor model performance.- Update model with new data periodically.

Agile Project Planning:

Sprint	Duration	Tasks
Sprint 1	2 weeks	Problem definition, requirement analysis
Sprint 2	2 weeks	Data collection, preprocessing
Sprint 3	2 weeks	Model development & testing
Sprint 4	2 weeks	UI/UX design, backend integration
Sprint 5	2 weeks	Deployment, testing, release

Steps:

Requirement Document

Data Collection Plan

Model Development Report

Testing Report

Deployment Guide

User Manual