

## Project Design Phase

### Solution Architecture

Date	15 February 2025
Team ID	LTVIP2025TMID36588
Project Name	traffictelligence: advanced traffic volume estimation with machine learning
Maximum Marks	4 Marks

#### Solution Architecture:

Traffictelligence collects real-time traffic data from IoT sensors and cameras, ingests it via AWS IoT Core or API Gateway, and preprocesses it using AWS Lambda. The cleaned data is stored in S3 and DynamoDB, then passed to a machine learning model (e.g., XGBoost or LSTM) hosted on SageMaker for traffic volume prediction. Results are served through an API and visualized on a dashboard. Logs and encrypted outputs are managed using CloudWatch and S3 with KMS for secure storage.

#### Solution Architecture Diagram:

##### Traffictelligence Solution Architecture

