


-  **Proposed Solution Template**
- **Date:** 15 February 2025
Team ID: LTVIP2025TMID45340
Project Name: Traffic Volume Estimation
Maximum Marks: 2 Marks

S	Parameter	Description
1	Problem Statement (Problem to be solved)	Urban areas face increasing traffic congestion, leading to delays, higher fuel consumption, and air pollution. Accurate real-time traffic volume estimation is lacking, making traffic management inefficient.
2	Idea / Solution description	We propose a machine learning-based solution that analyzes historical and real-time data (from traffic_volume.csv and external APIs) to predict traffic volume at different times and locations. The model will integrate with a Flask web app for visualization and API access for traffic authorities.
3	Novelty / Uniqueness	Unlike traditional fixed-threshold methods, our solution leverages predictive analytics using regression models, adapts to patterns over time, and can incorporate weather, events, or sensor data for more accurate predictions.
4	Social Impact / Customer Satisfaction	The solution helps reduce commute times, lowers carbon emissions by aiding smoother traffic flow, and enhances citizen satisfaction by minimizing delays. It also supports emergency response by identifying congestion hotspots.

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| 5 | Business Model (Revenue Model) | Revenue can be generated by offering the solution as a subscription-based service to city traffic departments, logistics companies, and map service providers. Additional revenue streams include API licensing and data analytics consultancy. |
| 6 | Scalability of the Solution | The solution is cloud-deployable and scalable to other cities or regions. It can handle increasing data volumes and be extended to include additional data sources such as IoT sensors or mobile app data. |

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