# Project Design Phase Proposed Solution Template

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| Date | 20 July 2025 |
| Team ID | LTVIP2025TMID20285 |
| Project Name | TrafficTelligence – Advanced Traffic Volume Estimation Using Deep Learning |
| Maximum Marks | 2 Marks |

Proposed Solution Template:  
Project team shall fill the following information in the proposed solution template.

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| S.No. | Parameter | Description |
| 1 | Problem Statement | City traffic departments struggle with real-time traffic monitoring and volume estimation. This leads to poor route planning, congestion, and delays. |
| 2 | Idea / Solution Description | Our project 'TrafficTelligence' uses deep learning (CNN + LSTM) to estimate traffic volume (Low, Medium, High) using metadata and image input. A Flask web app offers predictions instantly. |
| 3 | Novelty / Uniqueness | Combines visual traffic snapshots and temporal metadata for accurate estimation. Uses transfer learning (ResNet50) with minimal data. UI is clean and accessible for city use. |
| 4 | Social Impact / Satisfaction | Helps commuters avoid peak congestion, supports smart city initiatives, and enables data-driven urban planning. Enhances safety, efficiency, and user satisfaction. |
| 5 | Business Model | Can be provided as a SaaS-based traffic dashboard to municipal departments or integrated with ride-sharing apps via APIs. Data insights can be monetized for infrastructure planning. |
| 6 | Scalability | Can scale to multiple cities or integrate with live traffic feeds. Supports future use cases like emergency vehicle prioritization or smart signal control. |