

PROJECT DESIGN PHASE

Problem-Solution Fit

Date	28-06-2025
Team ID	LTVIP2025TMID45015
Project Name	TrafficTelligence: Advanced Traffic Volume Estimation with Machine Learning
Maximum Marks	2 marks

Traffic congestion is a significant challenge in growing cities, affecting daily commuters, logistics services, and emergency response systems. The lack of predictive systems for anticipating traffic volume leads to delays, fuel wastage, and increased stress among commuters.

TrafficTelligence directly addresses this issue by:

- Empowering daily commuters to check expected traffic conditions and plan accordingly
- Assisting urban planners with historical trend-based data-driven insights, Offering educational use for AI/ML students learning real-world problem-solving with traffic data

Problem-Solution fit canvas 2.0		Purpose / Vision	
1. CUSTOMER SEGMENT(S) • Daily urban commuters • City urban planners • AI/ML students & educational institutions	7. BEHAVIOUR • Commuters check mobile apps before heading out • Planners rely on static reports and occasional traffic audits • Students analyze general datasets using AI models	6. CUSTOMER CONSTRAINTS • Limited access to predictive, localized tools • Budget restrictions in educational or government institutions • Varying levels of technical comfort with data platforms	AS Explore AS, differentiate
2. JOBS-TO-BE-DONE / PROBLEMS • Commuters want to avoid delays and reduce stress by planning smarter routes • Urban planners need historical traffic insights for infrastructure development • Students require hands-on datasets to practice real-world AI/ML problem-solving	9. PROBLEM ROOT CAUSE • Rapid urban growth outpacing infrastructure updates • Lack of integration between real-time data and planning systems • Insufficient predictive modeling used in day-to-day traffic planning	7. BEHAVIOUR • Commuters check mobile apps before heading out • Planners rely on static reports and occasional traffic audits • Students analyze general datasets using AI models	BE Focus on BE, tap into BE, understand BE
3. TRIGGERS • Frustration with daily traffic jams • Interest in new smart city tools or reports on urban mobility innovation • Course assignments or tech talks that highlight traffic data modeling	10. YOUR SOLUTION TrafficTelligence – a predictive traffic insight platform • Real-time traffic forecasts tailored for commuters • Visualization and reporting tools for urban developers • Open access datasets and case studies for students	8. CHANNELS of BEHAVIOUR 8.1 ONLINE: • Use mobile traffic/navigation apps • Access traffic APIs or cloud-based dashboards • Join urban planning forums, student data science communities 8.2 OFFLINE: • Public transport observations • Manual surveys and city planning meetings • Classroom project presentations	CH Extract online & offline CH of BE
4. EMOTIONS: BEFORE / AFTER • Before: Anxious, frustrated, overwhelmed • After: Empowered, informed, in control			

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