

**Project Design Phase**  
**Problem – Solution Fit Template**

Date	26 June 2025
Team ID	LTVIP2025TMID37089
Project Name	Sustainable Smart City Assistant using IBM Granite LLM
Maximum Marks	2 Marks

**Problem – Solution Fit Template:**

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

**Purpose:**

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- **Understand the existing situation in order to improve it for your target group.**

**Template:**

## Problem-Solution Fit canvas

Purpose / Vision

Version:

Define CS, fit into CL	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> Urban municipal officers, water board staff, traffic management teams, environmental NGOs, and citizens concerned with sustainable urban development.	<b>6. CUSTOMER LIMITATIONS</b> <span>CL</span> <small>EG. BUDGET, DEVICES</small> Lack of AI tools - Poor integration with existing systems - Budget or training constraints for new tech	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> <small>PROS &amp; CONS</small> Traditional route maps - Basic Excel-based waste/water reports - Static traffic plans not based on real-time data	Explore AS, differentiate
	<b>2. PROBLEMS / PAINS</b> <span>PR</span> <small>• ITS FREQUENCY</small> Analyze waste data and optimize disposal methods - Predict future water usage trends and shortages - Analyze and optimize city traffic routes using coordinate data	<b>9. PROBLEM ROOT / CAUSE</b> <span>RC</span> No centralized AI system for holistic analysis - Lack of technical expertise or real-time data mapping	<b>7. BEHAVIOR</b> <span>BE</span> <small>• ITS INTENSITY</small> Officers manually check Excel files - Residents post complaints on social media - Delayed responses due to reactive planning	
Focus on PR, tap into BE, understand RC	<b>3. TRIGGERS TO ACT</b> <span>TR</span> Increase in uncollected waste complaints - Water scarcity reports in urban zones - Congestion and citizen frustration with city traffic	<b>10. YOUR SOLUTION</b> <span>SL</span> A web app powered by the IBM Granite LLM, with modules for: - Smart Waste Management (PDF upload → AI response) - Water Prediction System (CSV upload → trends + charts) - Traffic Route Optimizer (coordinates → route map + suggestions)	<b>8. CHANNELS of BEHAVIOR</b> <span>CH</span> ONLINE Email, phone, or local apps - WhatsApp or physical reports for complaints - No AI-enabled dashboards in use  OFFLINE	Extract online & offline CH of BE
	<b>4. EMOTIONS</b> <span>EM</span> <small>BEFORE / AFTER</small> Before: Helpless, overwhelmed by disorganized data, poor visibility - After: Confident, proactive with insights, data-backed decisions			