## **Project Design Phase**

### **Problem – Solution Fit Template**

**Date:** 26 June 2025  
**Team ID:** LTVIP2025TMID32000  
**Project Name:** Sustainable Smart City Assistant Using IBM Granite LLM  
**Maximum Marks:** 2 Marks

### **Problem – Solution Fit Template:**

The Problem–Solution Fit means identifying a real challenge faced by citizens and city administrators and ensuring the proposed solution effectively addresses those challenges. It helps innovators, policymakers, and technology teams recognize what solutions work in the urban sustainability and governance domain, and why.

### **Purpose:**

The **Sustainable Smart City Assistant** is designed to address inefficiencies, complexity, and delays in accessing city information, resource management, and citizen engagement processes. It targets city administrators, policymakers, and citizens who struggle with fragmented tools for policy interpretation, sustainability forecasting, and citizen interaction.

By integrating **IBM Watsonx Granite LLM**, the platform delivers intelligent, AI-powered assistance through a modular **Streamlit** application. It offers capabilities such as:

AI-generated policy document summarization  
Semantic policy search with Pinecone  
Real-time KPI forecasting for resources like water, energy, and air quality  
Anomaly detection for resource usage irregularities  
Eco Tips generator for promoting citizen sustainability practices  
AI-powered chat assistant for answering citizen sustainability queries  
Citizen feedback collection and categorization

These features drastically reduce manual efforts, improve decision-making, empower citizens, and enhance the efficiency of smart city operations.

### **Solution Advantages:**

Solve complex smart city challenges in a way that aligns with real-world behaviors and needs  
 Accelerate sustainable development and improve solution adoption through accessible AI tools  
 Sharpen communication and governance strategies with AI-generated insights and citizen-friendly outputs  
 Increase citizen trust and engagement by solving common urban annoyances like policy complexity or service delays  
 Understand the existing gaps in city administration and continuously improve them through data-driven insights

### **References:**

<https://www.ideahackers.network/problem-solution-fit-canvas/>  
<https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>