

Smart City Project Documentation

Project Team

- Suresh Kumar S - Project Manager
- Senathipathi R - Lead Developer
- Subash K - Data Analyst
- Siva V - UI/UX Designer

1. Project Overview

The Smart City project aims to enhance urban living by integrating technology into city infrastructure and services. Our goal is to create a more efficient, sustainable, and connected urban environment. This project will focus on three key areas: smart waste management, intelligent transportation, and public safety. We will use a network of sensors, data analytics, and a centralized dashboard to monitor and manage these systems in real time. The ultimate objective is to improve the quality of life for citizens and optimize city resource management.

2. Scope of Work

In Scope

- Smart Waste Management: Deploying ultrasonic sensors, dashboard development, route optimization
- Intelligent Transportation: Traffic sensors, adaptive traffic lights, real-time citizen updates
- Public Safety: CCTV integration, emergency response platform

Out of Scope

- Public Utilities: Smart water or electricity grids
- Social Services: Digital health or education platforms
- Personalized Citizen Services: Individualized mobile apps beyond public information

3. Technologies Used

Hardware

- Sensors: Ultrasonic, LiDAR, Cameras
- Microcontrollers: Arduino, Raspberry Pi
- Network: LoRaWAN, 5G

Software & Platforms

- Cloud Platform: Microsoft Azure
- Database: PostgreSQL, MongoDB
- Programming Languages: Python, JavaScript
- Frameworks: Django, React.js
- Data Analytics: Pandas, Scikit-learn

4. Project Timeline

Phase	Start Date	End Date	Key Deliverables	
Planning & Design	2025-10-01	2025-11-15	System Architecture, UI/UX Mockups, Tech Stack	Suresh
Development	2025-11-16	2026-03-31	Backend, Frontend, Sensor Integration	Sen
Testing & Deployment	2026-04-01	2026-05-15	Integration Tests, Bug Fixes, Pilot	Suresh
Maintenance & Support	2026-05-16	Ongoing	Monitoring, Optimization, Feature Updates	

5. Roles and Responsibilities

- Suresh Kumar S: Oversees entire project, manages timeline & budget, stakeholder communication
- Senathipathi R: Leads technical development, server-side logic, database interactions
- Subash K: Data collection, cleaning, analysis, develops route optimization & prediction algorithms
- Siva V: Designs UI/UX for dashboard & app, ensures usability