

Problem Statement 4: Agentic AI System for Explainable Traffic Congestion Analysis

The Challenge

Traffic operators often receive congestion alerts without sufficient explanation of underlying causes. This limits trust and effective decision-making. There is a need for an explainable AI system that not only detects congestion but also explains contributing factors using interpretable insights derived from traffic data.

Traffic Data Analysis Agent

An agent that synthesizes traffic data from multiple sources into comprehensive traffic summaries.

Congestion Cause Analysis Agent

An agent that correlates congestion patterns with factors such as time-of-day, road incidents, weather conditions, and traffic volume changes.

Explainable Insight Assistant

An agent that generates human-readable explanations for congestion causes and trends (assistive only).

Outcome

Enhances transparency, trust, and usability of AI-driven traffic congestion analysis.

Mandatory Tech Stack

Lang Flow using IBM Granite Model
(RAG on traffic engineering literature and urban mobility frameworks.)