Traffic Control System State Machine (OOP Architecture)

Anomaly Detected

AIController.issueFinding()
→ Database.storeInvalidPlate()

Anomalies:
- Invalid plates
- Speed violations

EmergencyVehicle
invokes requestPriority()

Priority Request

EmergencyVehicle.requestPriority()
→ Database.storePriorityRequest()

Admin.accessDataBase()
+ checkPriority()

Request rejected
/Admin.notifyVehicle()/

Admin actions:
1. Verify request
2. Set priority threshold

Admin Review

Admin.checkPriority()
+ receivePriorityRequest()

Admin.updateValidRequest()
/Database updated/

Emergency Active

AIController.checkPriority()
+ ChangingLightEmergency()

AIController
.ChangingLightEmergency()

Anomaly found
/AIController.updateInvalidPlate()/

Traffic Adjustment

TrafficLight.countdownSet()
+ state override

TrafficLight
state normalized

Idle: System Standby

AIController.waitingForSensorInput

Vehicle enters
sensor range

Vehicle Detection

Sensor.detectVehicle()
→ Database.storeSensorData()

Cycle complete
System reset

Sensor data
validated

Data Processing

AIController.computeTime()
+ realTimeData analysis

No anomalies
/AIController.defaultLightStateChanging()/

Normal Operation

TrafficLight.changeState()
+ defaultLightStateChanging()