PUBLIC TRANSPORT OPTIMIZATION

Public transport optimization - Phase 2 Innovation

INTRODUCTION

- Phase 2 of our Public transport optimization project focuses on innovative
- Soluction to address traffic congestion . By incorporating historical traffic data and machine
- Learning, we aim to enchance the accuracy of our real time traffic monitoring and congestion
- Prediction system

REQUIREMENTS

1. **GPS Sensors:** Install GPS sensors on public transportation vehicles to
- track their real-time locations accurately.
2. **Passenger Counters:** Deploy passenger counters using infrared or ultrasonic sensors to monitor the number of passengers entering and exiting the vehicles.
3. **Environmental Sensors:** Optionally, consider environmental sensors (e.g., temperature, humidity) to enhance passenger comfort and safety.
4. **Communication Modules:** Equip the vehicles with communication modules (e.g., cellular or Wi-Fi) to transmit data to a central platform.

INNOVATION STRATEGY

- Historical Traffic Data Integration
- Machine Learning Algorithms
- Real-Time Congestion Prediction
- User-Friendly Visualization

HISTORICAL TRAFFIC DATA INTEGRATION

- We will collect and integrate historical traffic data from various sources, including government agencies, GPS data, and traffic cameras.
- Historical data will include information on traffic volumes, weather conditions, accidents, and special events.

MACHINE LEARNING ALGORITHMS

- We will employ machine learning algorithms to analyze historical traffic data and identify congestion patterns.
- Algorithms will be trained to recognize trends and correlations between traffic conditions and various factors

REAL-TIME CONGESTION PREDICTION

- By continuously analyzing incoming data and comparing it to historical patterns, our system will predict potential congestion areas in real-time.
- Predictions will be based on factors such as time of day, weather, historical traffic patterns, and events

USER-FRIENDLY VISUALIZATION

- To provide commuters with actionable information, we will design an intuitive and user-friendly interface.
- Users will access real-time congestion predictions through our web-based platform and mobile apps

IMPLEMENTATION PLAN

- Data Collection: Gather historical traffic data from various sources.
- Data Preprocessing: Clean, format, and prepare the data for analysis.
- Machine Learning Model Development: Create and train machine learning algorithms.
- Real-Time Integration: Integrate the prediction system with existing traffic monitoring infrastructure.
- User Interface Design: Develop user-friendly web and mobile interfaces.
- Testing and Validation: Thoroughly test the system and algorithms for accuracy and reliability.
- Rollout: Launch the enhanced system for public use.

THANK YOU