



# Public Transportation efficiency analysis

Introduction

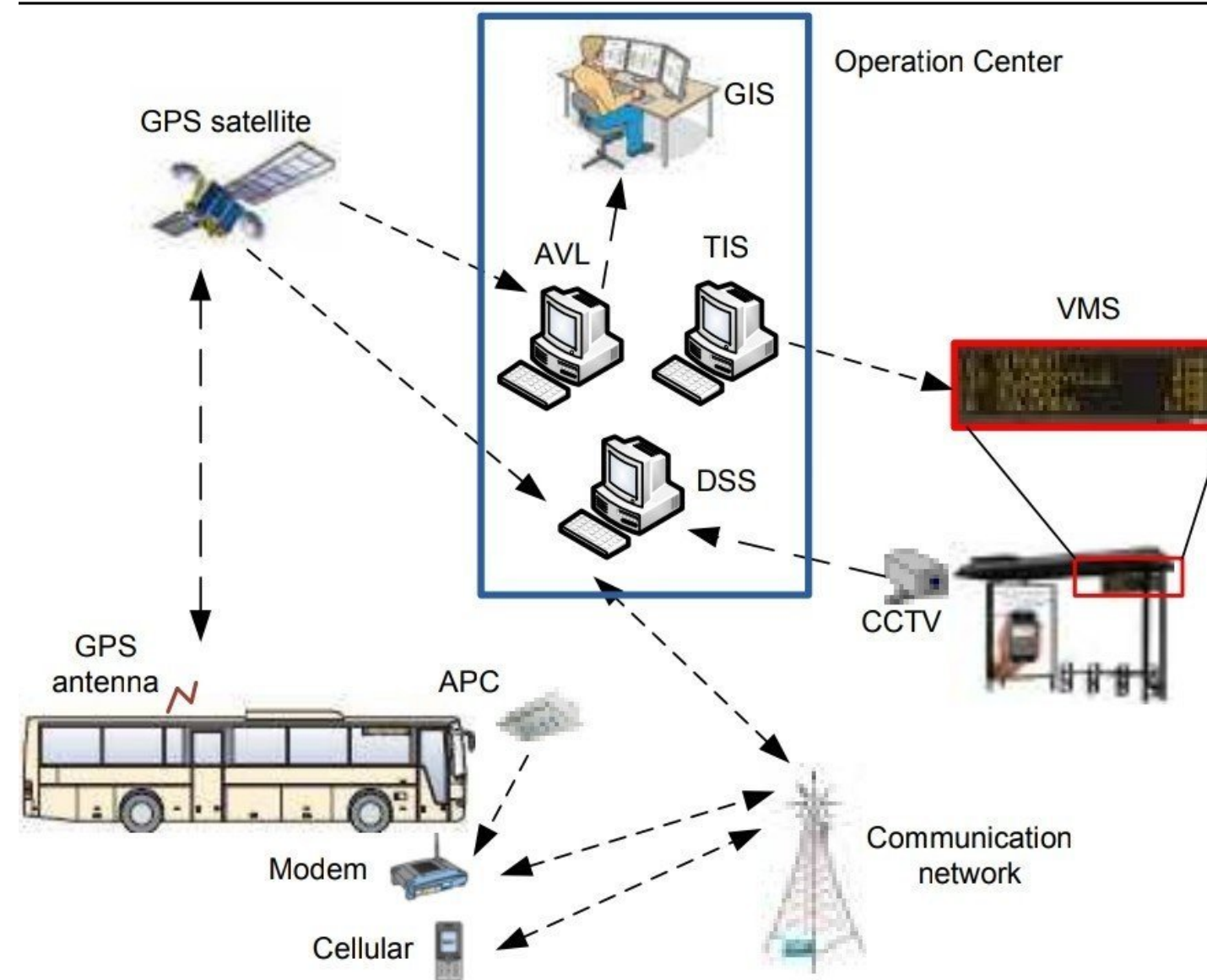
# About the project

In this presentation, we will discuss the architecture and flowchart for public transportation to improve its efficiency. We will explore the challenges faced by public transportation systems and propose solutions to overcome them.



Public  
transportation  
efficiency  
analysis

# ARCHITECTURE



## **1.DATA STORAGE :**

- 1.Store collected data in a centralized or distributed database system.
- 2.Consider using Big Data technologies for scalability and real-time processing

## **2.DATA COLLECTION:**

- 1.Collect data from various sources, including sensors on vehicles, ticketing systems, GPS, and user feedback.
- 2.Utilize APIs and data-sharing agreements with relevant authorities and agencies.

## EXPLANATION DIAGRAM

### **3.DATA PROCESSING**

- 1.Clean and preprocess the data to handle missing values, outliers, and data inconsistencies.
- 2.Convert data into a standardized format for analysis.

### **4.DATA ANALYSIS**

- 1.Perform descriptive analysis to understand historical trends, ridership patterns, and performance metrics.
- 2.Utilize statistical and machine learning techniques for predictive analysis and anomaly detection

## EXPLANATION DIAGRAM

### **5.KEY PERFORMANCE INDICATORS:**

1. Define relevant KPIs, such as on-time performance, ridership, service frequency, and customer satisfaction

### **6.VISUALIZATION**

1. Create interactive dashboards and visualizations to communicate insights effectively to stakeholders.
2. Tools like Tableau, Power BI, or custom web applications can be used

## EXPLANATION DIAGRAM

### **7.GEOSPATIAL ANALYSIS:**

1.Incorporate GIS (Geographic Information Systems) to analyze routes, congestion, and optimize service areas.

### **8.SIMULATION MODELLING :**

1.Use simulation tools to model and evaluate different scenarios for route planning and resource allocation

### **9.FEEDBACK INTEGRATION**

1.Incorporate user feedback through mobile apps or surveys to assess customer experience and address issues

### **10.REAL TIME MONITORING :**

1.Implement real-time monitoring systems to track vehicle locations, traffic conditions, and service disruptions

## EXPLANATION DIAGRAM

### **11.COST BENEFIT ANALYSIS :**

1.Evaluate the economic impact of different transportation strategies and investments

### **12.SECURITY AND PRIVACY :**

1.Ensure data security and compliance with privacy regulations, especially when handling sensitive user information

### **13.STACKHOLDER ENGAGEMENT :**

1.Collaborate with various stakeholders, including government agencies, transit operators, and urban planners, to align strategies and priorities.

### **14.DESION SUPPORT :**

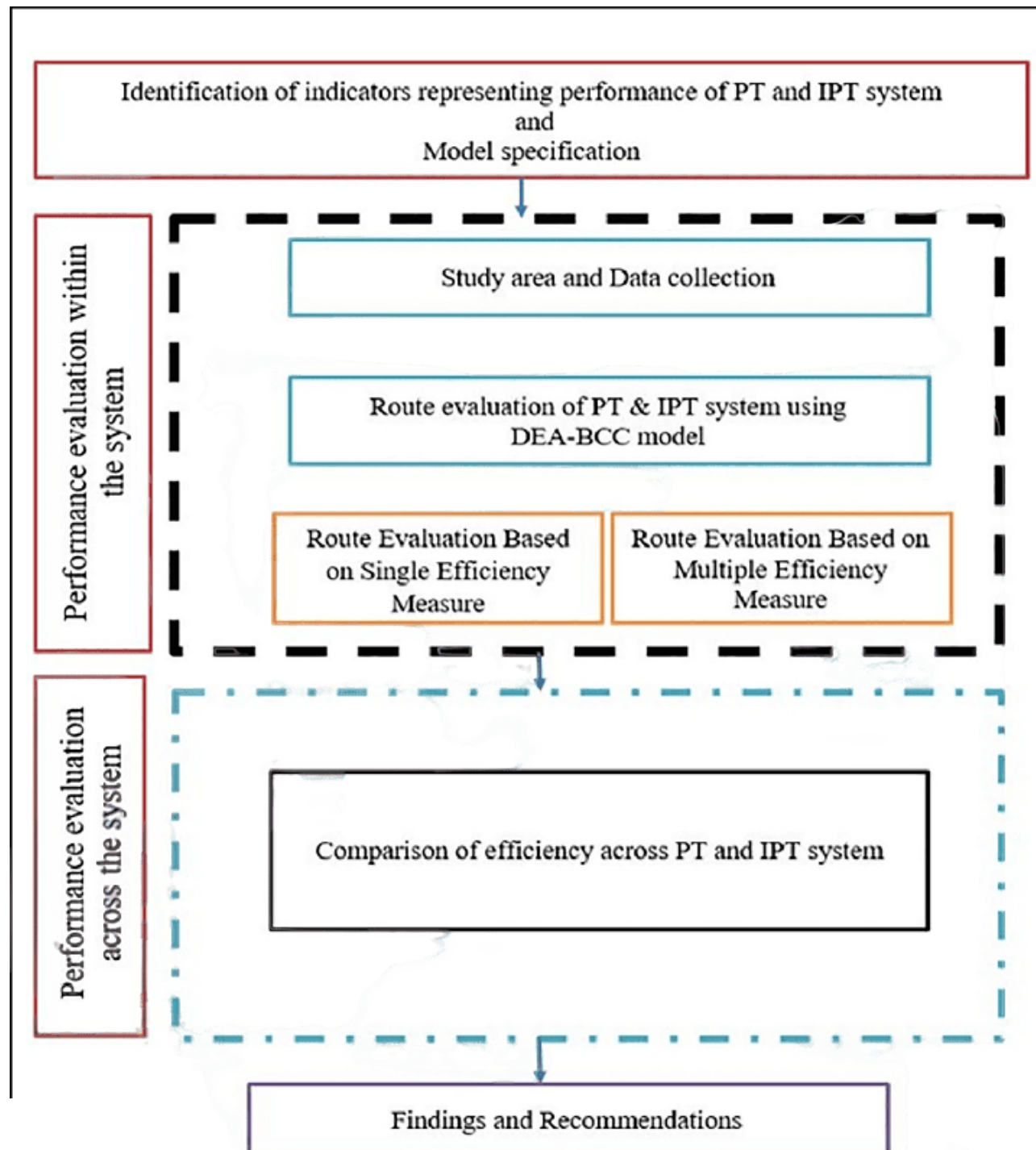
1.Provide decision-makers with insights and recommendations based on analysis results.



END

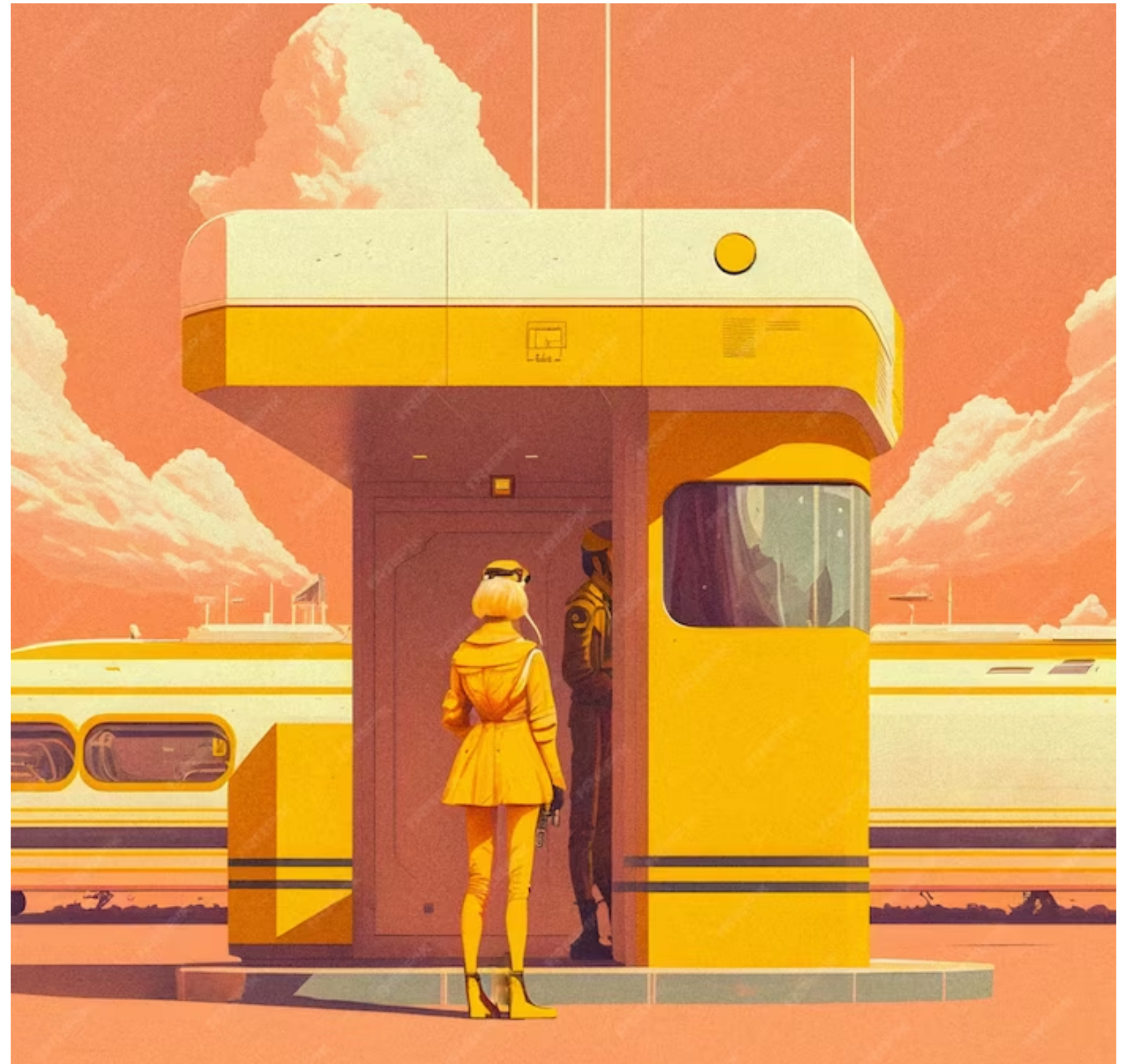
1. Conclude the analysis, but ensure that continuous monitoring and improvement processes are in place.
2. This architecture combines data-driven analysis, real-time monitoring, stakeholder collaboration, and feedback loops to enhance the efficiency of public transportation systems.
3. It's adaptable to different transportation networks and can be customized based on specific requirements and goals.

# FLOWCHART



# CONCLUSION

public transportation is essential for improving its efficiency and reliability. By analyzing the current state of public transportation, identifying areas for improvement, and implementing infrastructure and technology solutions, we can create a seamless and reliable experience for riders.



**Thanks!**