PUBLIC TRANSPORTATION OPTIMIZATION

Problem statement :

Overcrowding :

In public transportation poses challenges such as discomfort, safety concerns, and delays. Implementing effective crowd management strategies, such as capacity monitoring systems and optimized scheduling, can help alleviate overcrowding issues.

Ticket management :

Self ticket counters can enhance the ticketing process, reducing long queues and wait times, and improving overall efficiency and convenience for commuters. Finding innovative solutions to address these challenges is crucial for creating a more seamless and enjoyable public transportation experience.

Traffic Signal Coordination :

Develop a system that coordinates traffic signals to give priority to public transport vehicles, reducing travel times and improving service reliability.

Design Thinking :

1) Capacity Planning: Ensure that the transportation system is designed to handle the expected peak loads. This includes selecting the right types of vehicles (e.g., buses) with sufficient capacity and frequency.

2) Real-time Monitoring: Implement systems for real-time monitoring of passenger loads. Modern technology, like sensors and cameras, can help transportation authorities understand where overcrowding is occurring.

3) Automated Fare Collection: Implementing automated fare collection systems that can accurately calculate fares based on distance traveled, time, or other factors. These systems can also automatically deduct fares from passengers' accountaccounts.

4) Accessibility: Ensure that the self-ticketing systems are accessible to all passengers, including those with disabilities, by providing alternative methods for purchasing and validating tickets.

5) Passenger Information Systems: Use real-time passenger information systems at bus stops to inform riders about arrival times and potential delays caused by traffic signals. This can help manage passenger expectations.

6) Coordination with Traffic Management Centers: Integrate public transportation signal coordination with traffic management centers to ensure seamless communication and adjustment of signal timings as needed.

Project Idea :

Analysing the passengers count :

•By using sensors, passengers counts are detected and display the details in the LED at the door. So the passenger can understand the seat count by themself.

•Implementing automated ticket management system using card swiping or scanning methods.