



PUBLIC TRANSPORTATION ANALYSIS

INCONSISTENT SCHEDULING

PROBLEM:

Buses and trains often run on inconsistent schedules, leading to long wait times for passengers and overcrowding during peak hours.

SOLUTION:

Schedule Optimization:

Develop algorithms to create efficient and reliable transportation schedules that reduce wait times and improve service frequency.

ROUTE OPTIMIZATION

PROBLEM:

Inefficient routes result in longer travel times, increased fuel consumption, and higher operational costs for public transportation authorities.

SOLUTION:

Route Planning:

Implement route optimization strategies based on historical data, traffic patterns, and demand analysis to streamline travel routes.

PASSENGER EXPERIENCE

PROBLEM :

Passengers lack real-time information about arrivals, departures, and delays, causing frustration and inconvenience.

SOLUTION:

Real-time Passenger Information:

Create a real-time information system for passengers to track vehicle locations, arrivals, and delays via mobile apps or signage.

MAINTENANCE PLANNING

PROBLEM:

Predictive maintenance for vehicles and infrastructure is limited, leading to unexpected breakdowns and service disruptions

SOLUTION:

Predictive Maintenance:

Utilize predictive maintenance models to identify maintenance needs proactively, reducing vehicle downtime and improving safety.

BUDGET CONSTRAINTS

PROBLEM:

Limited budgets require optimizing operations and minimizing expenses while maintaining service quality.

SOLUTION:

Cost Reduction:

Identify cost-saving opportunities through data analysis, such as optimizing fuel consumption and crew schedules.

SAFETY AND SECURITY

PROBLEM:

Ensuring the safety and security of passengers is paramount, and data analytics can play a role in identifying and mitigating potential risks.

SOLUTION:

Safety Analytics:

Utilize data analytics to identify and address safety concerns, such as incidents of vandalism or accidents, to enhance passenger security.

TRAFFIC CONGESTION

PROBLEM:

Traffic congestion affects the reliability of public transportation schedules, leading to delays and inconsistent service.

SOLUTION:

Traffic Management:

Implement traffic management solutions that leverage real-time data to reroute vehicles and minimize the impact of traffic congestion on schedules.

FARE COLLECTION

PROBLEM:

Traditional fare collection methods may be outdated and inefficient, resulting in revenue leakage.

SOLUTION:

Electronic Fare Systems:

Introduce efficient electronic fare collection systems, such as contactless payment methods, to improve revenue collection and reduce fare evasion.

ENVIRONMENT

PROBLEM:

The environmental impact of public transportation, such as emissions and energy consumption, needs to be minimized to align with sustainability goals.

SOLUTION:

Green Initiatives:

Develop strategies to reduce the environmental footprint of public transportation by optimizing routes, encouraging eco-friendly vehicles, and monitoring emissions.

Advantages

Social Connectivity

Economic Growth

Tourism

Essential Services

Employment

Environmental Factors



Disadvantages

Safety

Cost

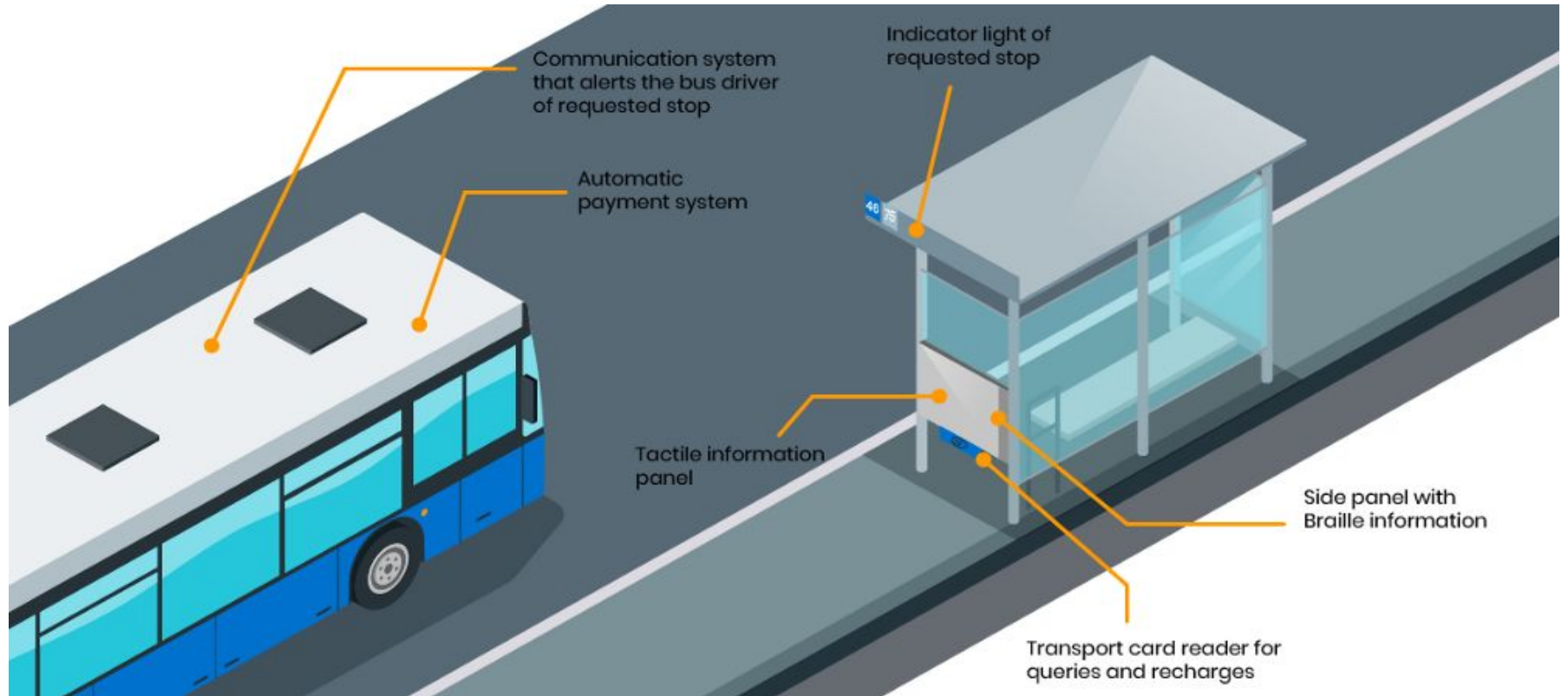
Congestion

Air Pollution

Noise Pollution

Land-related Concerns

DESIGN THINKING



CLEAN MOBILITY INSTEAD OF DIRTY TRAFFIC

Some action fields on the road to a smart and sustainable city

battery
research and
production
facility

demand-
driven traffic
control

solar rooftops
for local energy
generation

attractive
traffic routes
for bikes and
pedestrians

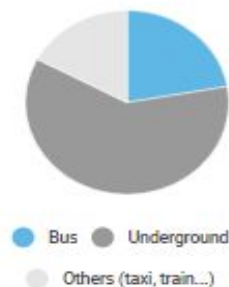
tramways
and electric
buses

self-
driving cars
extended public
transport

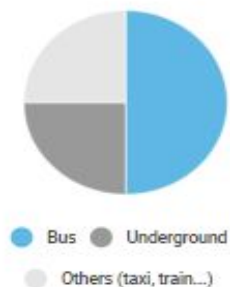
charging
stations for
individual
vehicles

What is your preferred means of public transportation?

(total responses)



(people who refer some type of disability)



Do you find any obstacle on the way to your regular bus stop?

(total responses)



(people who refer some type of disability)



Do you encounter accessibility difficulties getting on or off the bus?

(total responses)



(people who refer some type of disability)

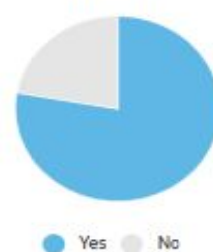


Have you ever been unable to get on the bus?

(total responses)



(people who refer some type of disability)





THANK YOU