Project Definition:

The project involves integrating IoT sensors into public transportation vehicles to monitor ridership, track locations, and predict arrival times. The goal is to provide real-time transit information to the public through a public platform, enhancing the efficiency and quality of public transportation services. This project includes defining objectives, designing the IoT sensor system, developing the real-time transit information platform, and integrating them using IoT technology and Python.

Design Thinking:

Project Objectives:

Define objectives such as real-time transit information, arrival time prediction, ridership monitoring, and enhanced public transportation services.

IoT Sensor Design:

Plan the deployment of IoT sensors (e.g., GPS, passenger counters) in public transportation vehicles.

Real-Time Transit Information Platform: Design a web-based platform to display realtime transit information to passengers

Integration Approach:

Determine how IoT sensors will send data to the real-time transit information platform.

TRANSPORTATION OPTIMIZATION is the process of analyzing shipments, rates and. Constraints to produce realistic load plans that reduce overall freight spend and gain efficiencies across entire transportation networks.

The goals of transportation optimization should include the reduction of costs and creation of greater operational efficiencies, all while increasing customer satisfaction. Not a small task, and one that requires constant analysis and monitoring.

The transportation and logistics industry, route optimization has proven itself to be a game-changer. Offering many benefits like boosted efficiency, cost savings, and reduced carbon footprint, route optimization is a crucial aspect of a delivery or service business.

We will look at some of the most efficient strategies to optimize shipment transport:

Pooling;

Aggregation;

Consolidation;

Continuous moves;

Cross-docking

Optimizing transportation problem of variables has remarkably been significant to various disciplines. In this paper, three variables will be optimized to reduce transportation cost using four methods which will include: Northwest corner method, least cost method, Vogel method and modi method.

5 major benefits of optimising transportation route scheduling?

Here's how.

5 Benefits of Route Optimization.

Increased Visibility. …

Faster Delivery Times. …

More Accurate Delivery. …

Lower Costs for Gas and Maintenance. …

Getting More From What You Already Have.

Transportation ensures extending of trade and network. The improvement and reforms in the transport sector enhance the dynamicity of freight and passengers in a region. With efficient roads and means of transport in place, industries and markets also develop.

Public transportation may include free amenities like public Wi-Fi, provide opportunities for private business sales, and encourage physical activity among riders.

Giving Public Transport Road Priority. The efficiency of public transport could be largely improved by giving priority to buses, trams, and other public vehicles on the road. …

Reducing Fraud. …

Improving Customer Satisfaction & Safety

Public Transport Strategy (2007 – 2020)

The Public Transport Strategy aims to accelerate the improvement in public transport by establishing integrated rapid public-transport networks (IRPTNs), which will introduce priority rail corridors and Bus Rapid Transit (BRT) systems in cities.

Giving Public Transport Road Priority. The efficiency of public transport could be largely improved by giving priority to buses, trams, and other public vehicles on the road. …

Reducing Fraud. …

Improving Customer Satisfaction & Safety.

Most bus and train services are overcrowded, undependable, slow, inconve nient, uncoordinated, and dangerous. Moreover, the public ownership and operation of most public transport services has greatly reduced productivity and inflated costs.

The advantages and disadvantages of Public Transport Advantages Disadvantages Reducing carbon emissions Limited accessibility Promoting a sense of community Time constraints Easing traffic congestion potential for overcrowding Enhancing mobility options.

Public transport modes include city buses, trolleybuses, trams (or light rail) and passenger trains, rapid transit (metro/subway/underground, etc.) and ferries. Public transport between cities is dominated by airlines, coaches, and intercity rail.

Definition, public transport is “a system of vehicles such as buses and trains that operate at regular times on fixed routes and are used by the public”. The four basic aims of public transport operation include: • provide access to employment, education, retail, health, recreational facilities, etc

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