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PHASE - 3

INTRODUCTION

An Internet of Things (IoT)-enabled intelligent traffic management system can solve pertinent issues by leveraging technologies like wireless connectivity & intelligent sensors. Considered a cornerstone of a smart city, they help improve the comfort and safety of drivers, passengers & pedestrians.

Through this article, we will explore the role of IoT in traffic management, the challenges it can solve & essential technologies to develop an intelligent system. We'll also explain how a city government can implement it to offer a good citizen experience.

Functioning of Traffic Monitoring System Using IoT Capabilities

This intelligent system comprises several components, including wireless sensors, RFID tags, and BLE beacons installed at the traffic signals to monitor the movement of vehicles. A real-time data analytics tool connects the Geographic Information System (GIS-enabled) digital roadmap with control rooms for real-time traffic monitoring.



The smart traffic management system captures the images of vehicles at the signals using the digital image processing technique. This data is then transferred to the control room via wireless sensors. The system also leverages BLE beacons or RFID tags to track the movement of vehicles and keep traffic congestion in control, track down stolen vehicles and even clear the road for emergency vehicles that are installed with RFID readers

Advantages of a Smart Traffic Management System

- Reducing traffic jams and accidents on the streets
- Ensuring immediate clearance for emergency vehicles

- Facilitating safer and shorter commute times
- Reducing congestion & energy consumption at intersections
- Offering significant productivity benefits with real-time monitoring of crucial infrastructures
- Reducing operating costs with efficient traffic management processes
- Ensuring compliance with the regulations for reducing the carbon footprint
- Saving billions of gallons of fuel wasted every year
- Accurate tracking & quick recovery of lost and stolen vehicles

PYTHON PROGRAM

```
`x = input("Enter value: ")  
stop_light = int(x)  
while True:  
    if stop_light >= 1 and stop_light < 10:  
        print('Green light')  
        stop_light += 1  
    else if stop_light < 20:  
        print('Yellow light')  
        stop_light += 1  
    else if stop_light < 30:  
        print("Red light")  
        stop_light += 1  
    else:  
        stop_light = 0  
        break`  
while True:  
    x = input("Enter value: ")  
    stop_light = int(x)  
    if stop_light == 30:  
        break  
    else if stop_light >= 1 and stop_light < 10:  
        print('Green light')  
        stop_light += 1
```

```
else if stop_light < 20:  
    print('Yellow light')  
    stop_light += 1  
else if stop_light < 30:  
    print("Red light")  
    stop_light += 1  
else:  
    stop_light = 0  
while True:  
    try:  
        x = input("Enter value: ")  
        stop_light = int(x)  
    except ValueError:  
        print("Try Again")  
    else:  
        break  
  
while stop_light <= 30:  
    if stop_light >= 1 and stop_light < 10:  
        print('Green light')  
    elif stop_light < 20:  
        print('Yellow light')  
    elif stop_light < 30:  
        print("Red light")  
    stop_light +=1
```