PHASE III PROJECT

PROJECT TITLE : PUBLIC TRANSPORT OPTIMIZATION

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SOURCE CODE :

```
import time
import serial
import gpsd
from gsmmodem import GsmModem

# Define serial port for GPS communication
gps_serial = serial.Serial('/dev/ttyUSB0', 9600)

# Initialize GSM modem
modem = GsmModem(port='/dev/ttyUSB1', baudrate=9600)
modem.connect('<your_pin>', 'your_gsm_device')

# Function to send an SMS
def send_sms(message, recipient):
    modem.sendSms(recipient, message)

# Function to get GPS coordinates
def get_gps_coordinates():
    try:
```

```
        packet = gpsd.get_current()
        if packet.mode >= 2:
            return packet.lat, packet.lon
        else:
            return None, None
    except Exception as e:
        print(f"Error reading GPS data: {e}")
        return None, None


# Main loop
while True:
    try:
        command = input("Enter a command: ")
        if command == "Track Vehicle":
            lat, lon = get_gps_coordinates()
            if lat is not None and lon is not None:
                message = f"Vehicle Tracking Alert:\nYour Vehicle Current Location is:\nLatitude: {lat:.6f}\nLongitude: {lon:.6f}\nGoogle Maps Link: https://www.google.com/maps/@{lat},{lon},14z"
                recipient = '850xxxxxxx'  # Replace with the actual phone number
                send_sms(message, recipient)
                print("SMS Sent")
            else:
                print("No GPS Fix")
        else:
            print("Invalid command")
    except KeyboardInterrupt:
        print("Exiting")
        break
```

```
# Disconnect GSM modem
modem.close()
```