# Internship – Kovai.co

## Task Report

**Task :** Analyse the public transport dataset and give insights and forecast it for next 7 days

## Insights from the dataset:

1. **Big Drop in 2020 Due to COVID-19**
   In 2020, the number of people using public transport went down a lot. This happened because of the COVID-19 pandemic, when people stayed home, schools closed, and offices allowed work from home.

2. **Rapid Route is the Most Popular**
   Among all services, Rapid Route was used the most. It had the highest number of passengers, especially on weekdays. This means many people use it to go to work or school.

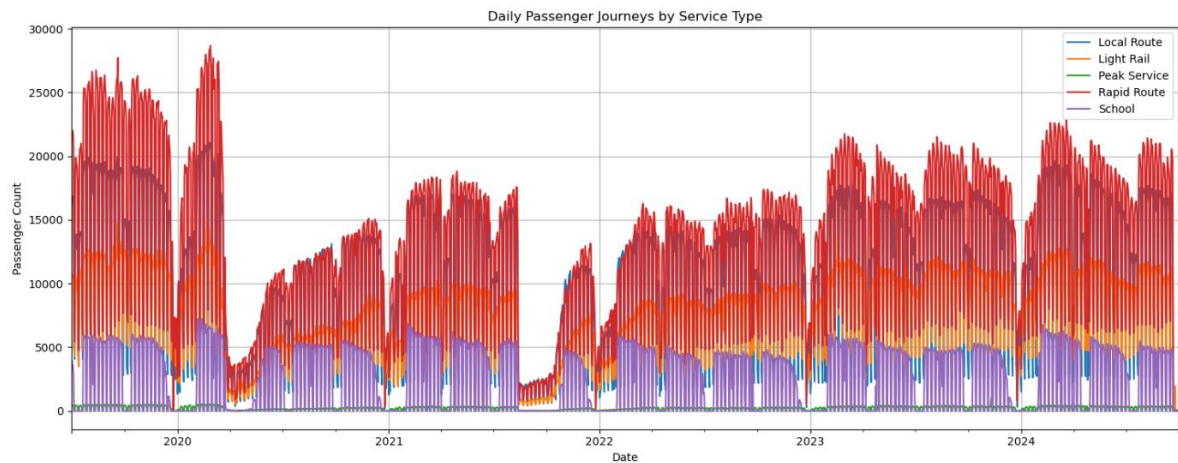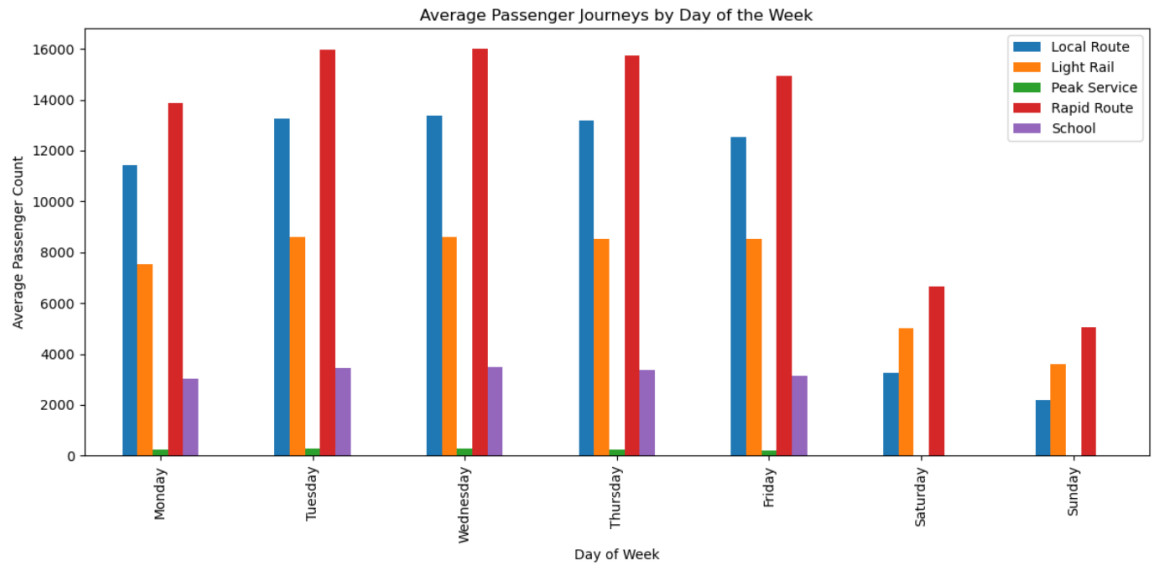3. **More People Travel on Weekdays than Weekends**
   There are more passengers from Monday to Friday compared to weekends. The number goes down on Saturdays and is the lowest on Sundays. This shows that most people use public transport for work or school during the week.

4. **School Service is Used Only on Weekdays**
   The School service is mainly used during school days. It is not used much on weekends or during holidays, which makes sense because it's meant for students.

5. **Some Services Follow Similar Patterns**
   The Local Route, Light Rail, and Rapid Route all show similar trends. When one goes up or down, the others usually do the same. This means people may be using them in the same areas or for similar reasons.

Average Passenger Journeys by Day of the Week



7-Day Rolling Average of Passenger Journeys



Daily Passenger Journeys by Service Type

# Forecasting Public Transport Patronage Using Prophet for Next 7 Days:

To forecast daily passenger journeys for different public transport service types (Local Route, Light Rail, Peak Service, Rapid Route, School) for the next 7 days using time series forecasting.

## Steps:

1. Prepared data for each service.

2. Trained Prophet model on past data.

3. Forecasted passenger counts for 7 future days.

4. Got predicted values and confidence intervals.

5. Plotted and saved forecast results.

## Results:

- Forecasts show expected passenger numbers for each service over the next week.

- Visual graphs show trends and uncertainty.