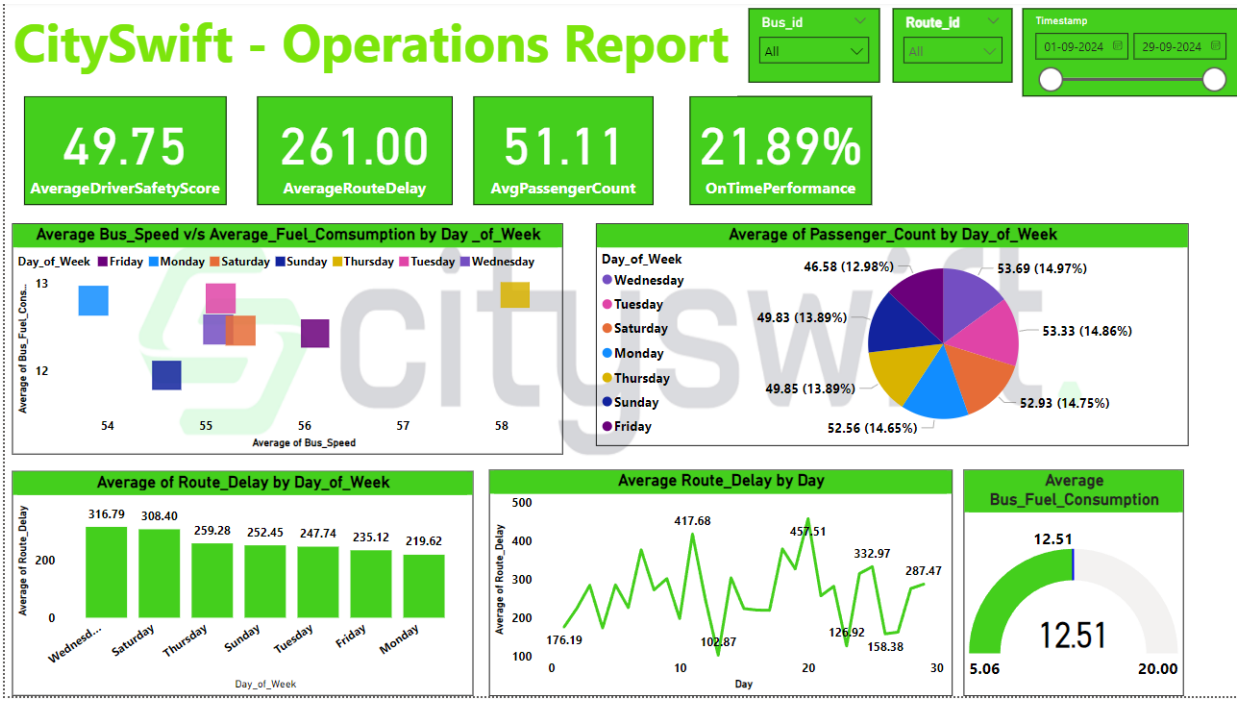
CitySwift Operations Report - Power BI Documentation

Report Overview:

The CitySwift Operations Report is designed to provide actionable insights into the operational performance of public transport services. This report presents key performance indicators (KPIs) and visualizations to help monitor bus performance, fuel consumption, route delays, and passenger demand across various days of the week.

Link:https://github.com/abhi921999/cityswift_job/blob/main/Cityswift_operations.pbix



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Key Performance Indicators (KPIs)

1. **Average Driver Safety Score:**
   Value: 49.75
   Description: This KPI tracks the average driver safety score, providing insights into driver behavior and safety on the road.
2. **Average Route Delay (mins):**
   Value: 261.00
   Description: Measures the average delay across all routes, highlighting performance deviations and inefficiencies in bus scheduling.
3. **Average Passenger Count:**
   Value: 51.11
   Description: Tracks the average number of passengers per trip across all routes, which helps to assess route efficiency and capacity management.
4. **On-Time Performance (%):**
   Value: 21.89%
   Description: The percentage of buses arriving on or before their scheduled time. This metric helps monitor schedule adherence and informs potential adjustments in scheduling.

Visualizations and Insights

3.1 Average of Bus Speed, Bus Fuel Consumption, and Passenger Count by Day of the Week

- Visualization Type: scatter plot.
- Insights:
  - Provides insights into bus performance (speed), fuel consumption, and passenger load for each day of the week.
  - Weekday Analysis:
    - Friday and Monday: Show lower average bus speeds, indicating potential traffic issues.
    - Saturday and Sunday: Higher fuel consumption suggests either longer routes or more inefficient driving patterns on weekends.

3.2 Average of Passenger Count by Day of the Week (Pie Chart)

- Visualization Type: Pie Chart
- Insights:
  - Highest Demand Days: The pie chart reveals that Wednesday has the lowest average passenger count (12.98%), while Friday and Sunday have the highest (14.97% and 14.75%, respectively).

- Actionable Insight: This can be used to adjust bus allocations for routes that run on different days of the week to meet passenger demand.

3.3 Average of Route Delay by Day of the Week (Bar Chart)

- Visualization Type: Bar Chart
- Insights:
  - Weekday Delays:
    - Wednesday experiences the highest average route delay (316.79 minutes), followed closely by Saturday (308.40 minutes).
    - Monday sees the lowest delay (219.62 minutes), indicating more efficient operations at the start of the week.

3.4 Average of Route Delay by Day (Line Chart)

- Visualization Type: Line Chart
- Insights:
  - Shows the daily fluctuations in route delays.
  - Highest Delay Days: The chart shows peak delays on specific days, with delays reaching up to 457.51 minutes on some days, highlighting critical areas that need attention.
  - Lowest Delay Days: Days with the least delays (e.g., 102.87 minutes) could serve as benchmarks for improving performance on high-delay days.

3.5 Average Bus Fuel Consumption (Gauge Chart)

- Visualization Type: Gauge Chart
- Insights:
  - Displays the average fuel consumption per bus, with a value of 12.51 liters/km.

Filters and Interactivity

The report includes dynamic filters allowing users to drill down into specific details and gain insights based on custom selections:

1. Bus ID Filter: Allows filtering by specific buses to investigate performance issues or identify top/bottom performers.
2. Route ID Filter: Enables selection of specific routes to analyze route-specific metrics such as delay and passenger count.
3. Date Range Filter: Allows users to adjust the time period for analysis. The default setting includes a time range from 01-09-2024 to 29-09-2024.