



Train Punctuality Performance Analysis

PRESENTED BY

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PERFORMANCE ANALYST



ABOUT ME

HI, I'M VISWA

I'm a **Performance Analyst** with a passion in participate in every stage of **Data Processing** and **Performance Development**, from discovery to delivery. Helping to focus on business goals that **satisfy customer requirement**.



INTRODUCTION

In this presentation, we will examine the **Trends & Patterns in Train punctuality** over the past six years, identify key factors **influencing performance**, and recommend **actionable strategies** to enhance efficiency and reliability in the rail industry.



UNDERSTANDING THE DATASET

The dataset provides comprehensive information on train punctuality from various operators spanning the years 2017 to 2022.

Key columns include:

Date, Day Type, Operator Name, On Time Passes, Within 2 Passes, Within 3 Passes, and Count.

NEXT STEPS

ELT - Extract, Load, Transform

EDA- Exploratory Data Analysis

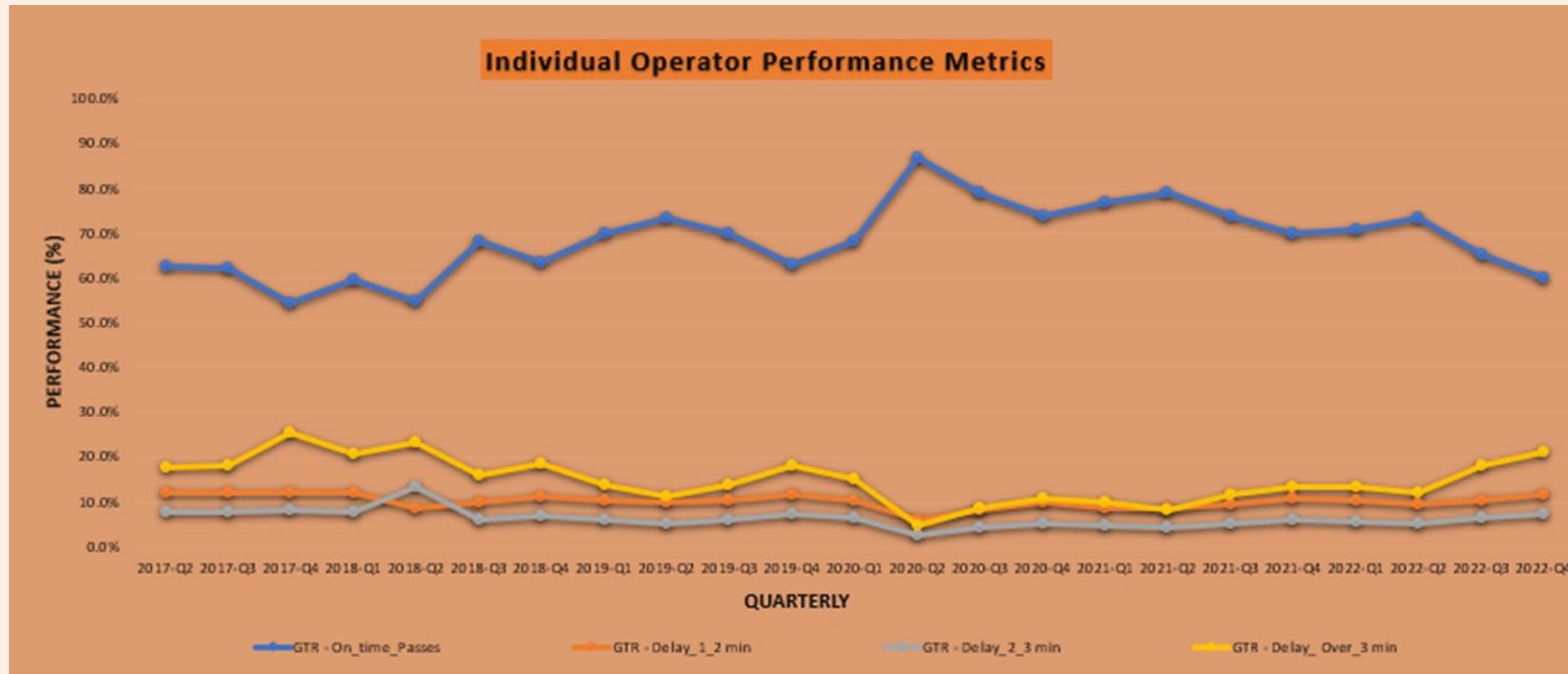
KPI (KEY PERFORMANCE INDICATOR)

KPIs are measurable values that demonstrate how effectively the rail industry is achieving key objectives. In this context, KPIs help assess train punctuality and performance.

After analysing the data, we will create the following KPIs:

- QUARTERLY PERFORMANCE
- DAY PERFORMANCE BREAKDOWN
- OVERALL ON-TIME PERFORMANCE (2017 TO 2022)
- OVERALL UNDERACHIEVE PERFORMANCE (2017-2022)
- TOP AND BOTTOM 10 OPERATORS (2017-2022)
- STATISTICS (2017-2022)

QUARTERLY PERFORMANCE

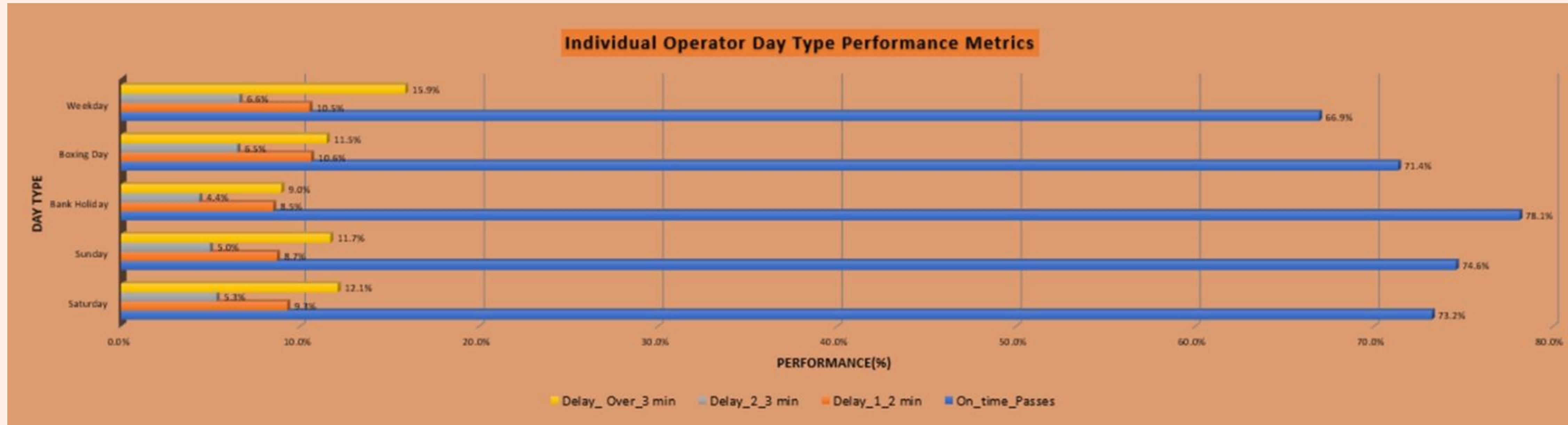


GTR 2017-2022

KEY INSIGHTS

- Improvement Periods - particularly in 2020-Q2.
- Decline Periods -The decline towards the end of 2022.

DAY PERFORMANCE BREAKDOWN

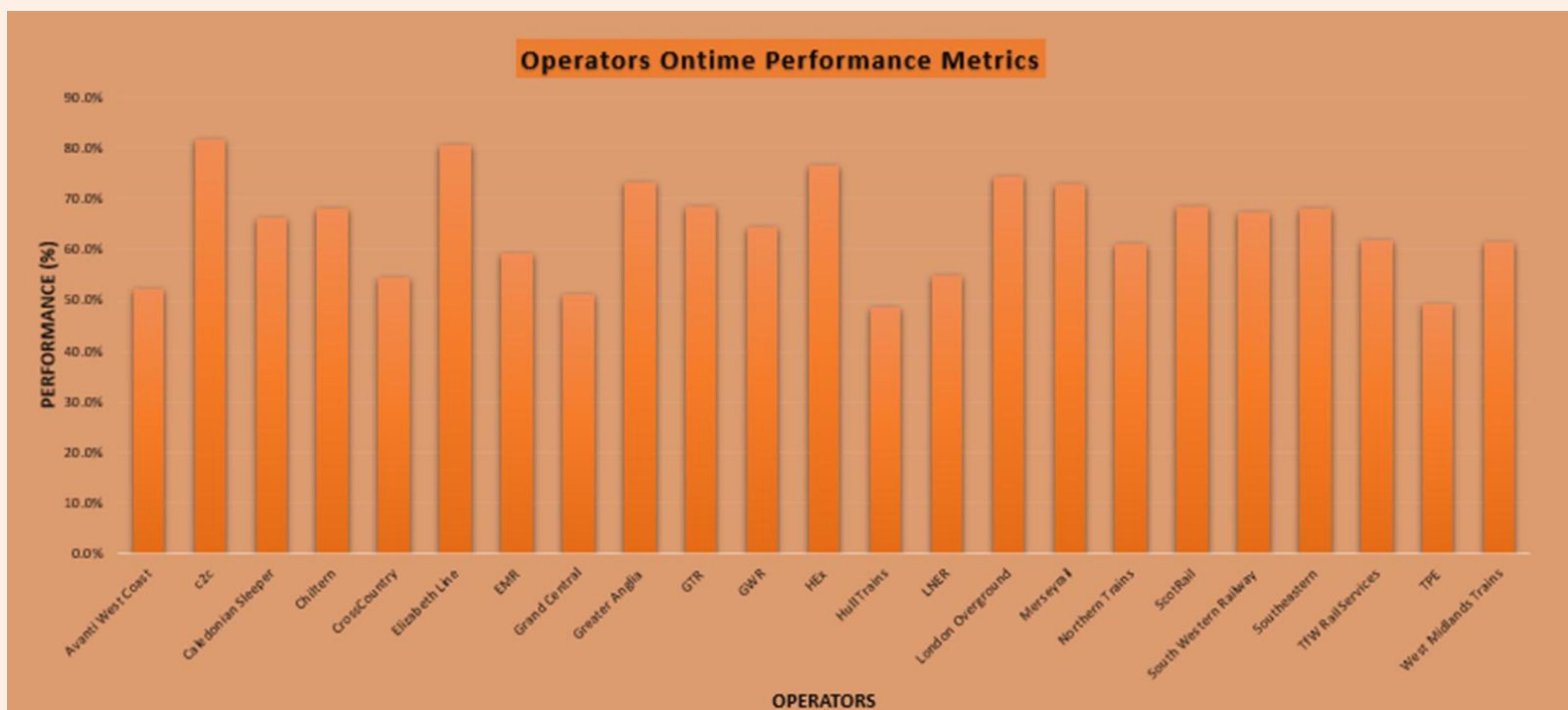


GTR 2017-2022

KEY INSIGHTS

- Weekdays vs. Weekends
- Special Days
- Delay Analysis

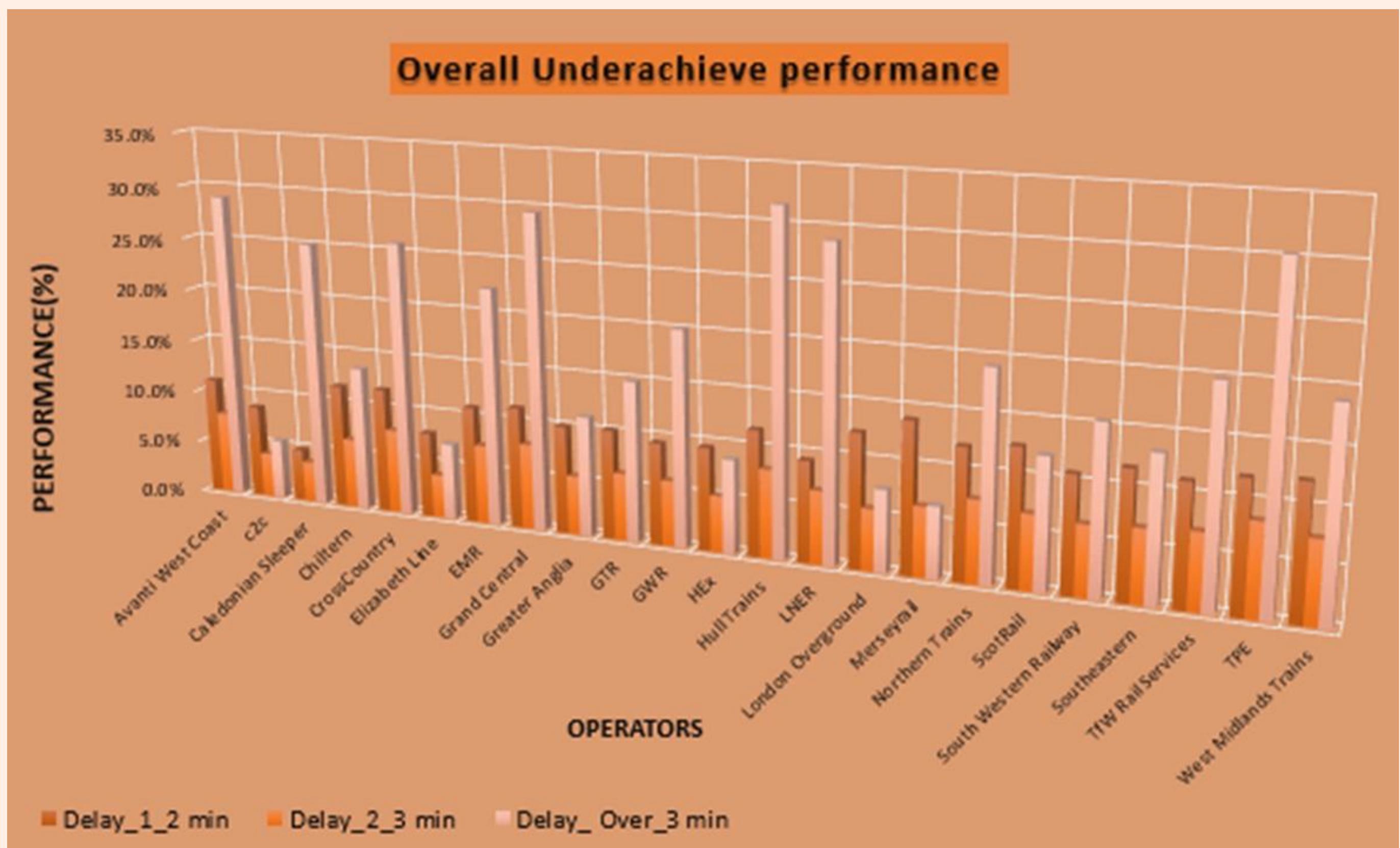
OVERALL ON-TIME PERFORMANCE (2017-2022)



KEY INSIGHTS

- Consistency
- Improvement Areas
- Benchmarking

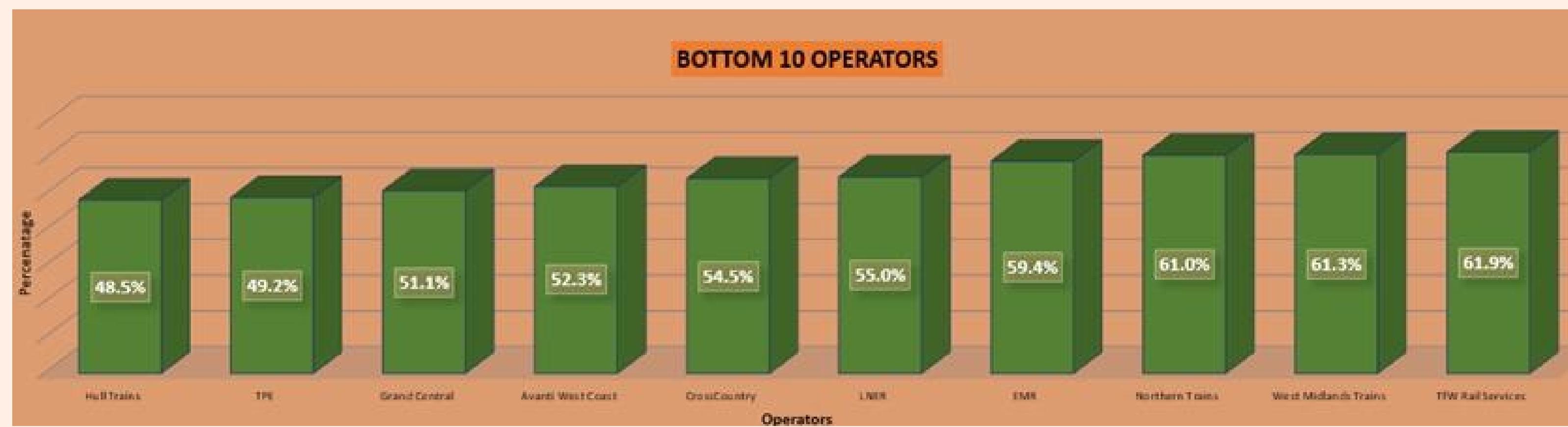
OVERALL UNDERACHIEVE PERFORMANCE (2017-2022)



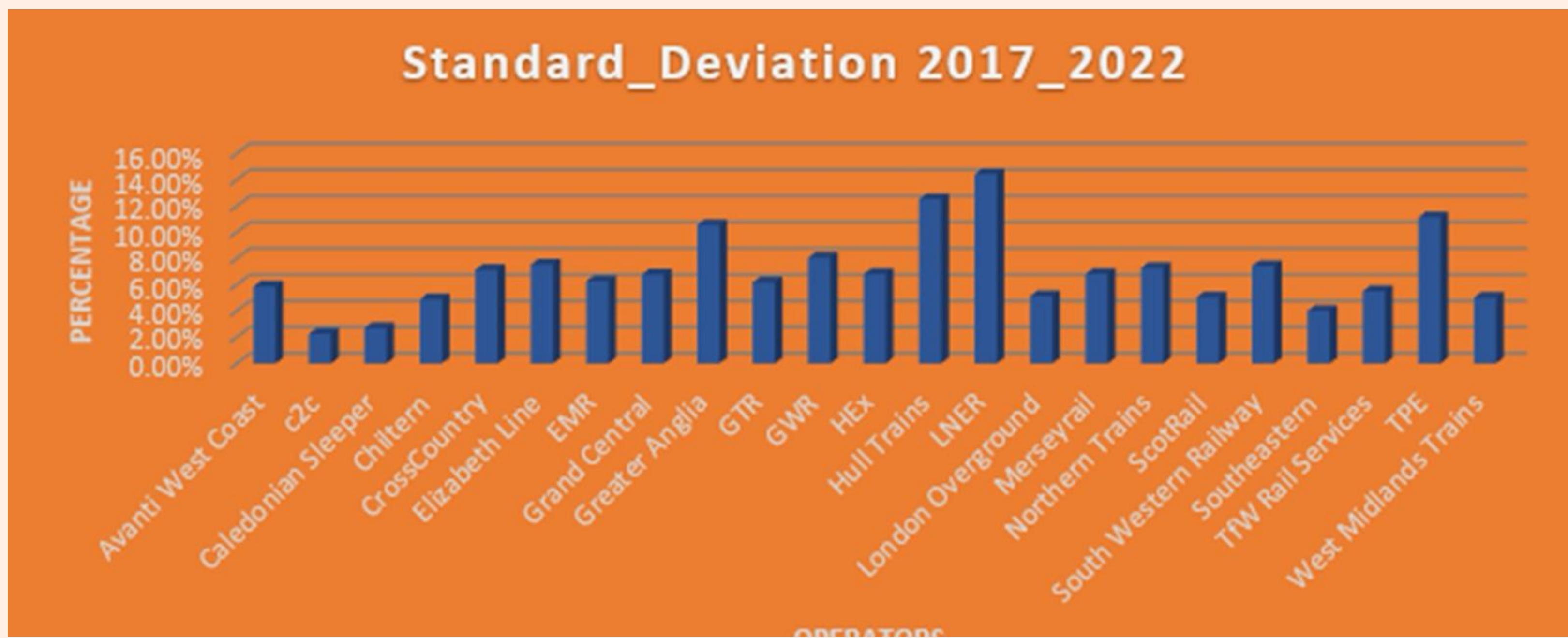
KEY INSIGHTS

- Focus Areas
- Comparative Performance
- Impact of Delays

TOP & BOTTOM 10 OPERATORS (2017-2022)



STATISTICS (2017-2022)



KEY INSIGHTS

- Consistency vs. Variability
- Performance Fluctuations

KEY IDENTIFYING IN OVERALL

- **Weekday Performance:** Weekday operations showed poorer performance compared to weekends, likely due to higher passenger volumes and peak-hour congestion.
- **Geographical Disparities:** Trains outside London had average delays of more than 3 minutes, whereas those within London had fewer delays.
- **Line-Specific Performance:** The c2c and Elizabeth lines showed consistent performance from 2017 to 2022, indicating better management and infrastructure on these routes.

ROOT CAUSE ANALYSIS

- Scheduling Conflicts
- Capacity Limits
- Aging Infrastructure
- Weather Conditions
- Public Events
- Signal Failures
- Geographical Factors

CONCLUSION & NEXT STEPS

Based on the comprehensive analysis of the data, it is evident that each train operator performs well in its own unique way. Direct comparisons across different factors such as travel distances, speed limits, number of stops, regional coverage, and train timings are not effective due to the varying operational contexts. Instead, it's better to focus on their strengths in specific situations to improve overall performance.

From my point of view, placing the operators into different categories can help identify their unique strengths, enhance their efficiency, and achieve better results.



THANK YOU

FEEL FREE TO ASK QUESTIONS