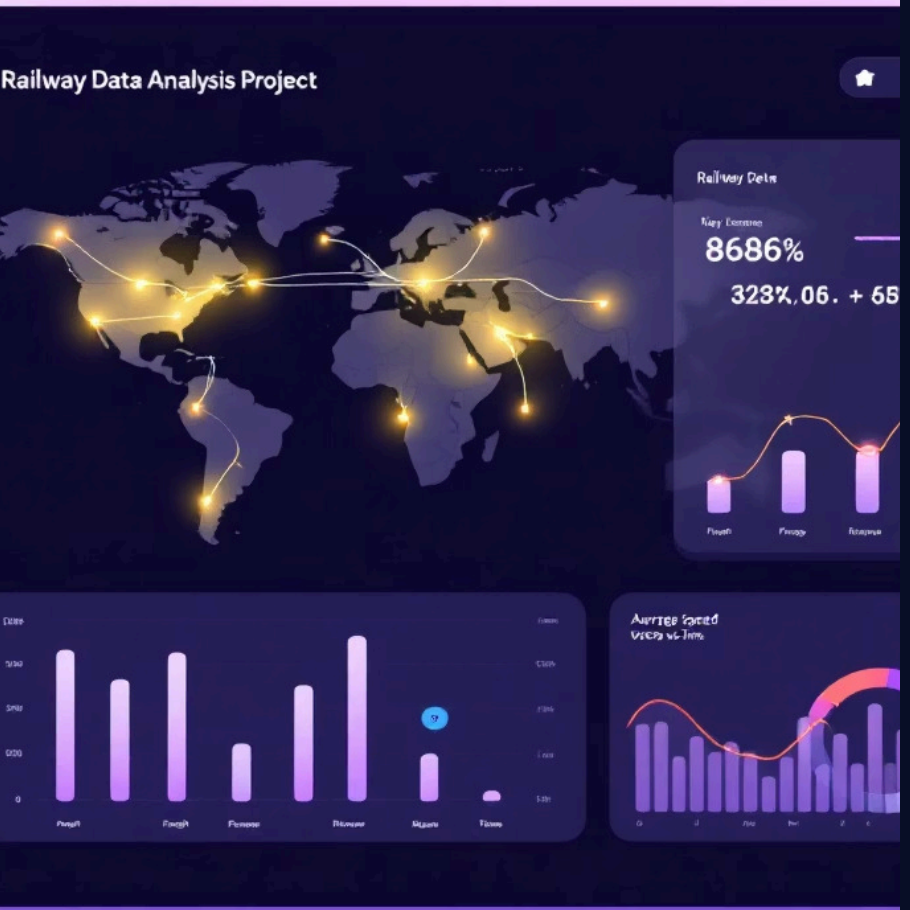
UK Train Rides

Acknowledgments

- Thanks to Ministry of Communications and IT (DEPI)
- Thanks to CLS Organization
- Special thanks to Eng. Ahmed Hany
- Program helped us gain skills in Data Analysis & Visualization.

GitHub - Noha-Essam/UK-Train-Rides: Dashboard Of UK-Train-Rides

UK-Train Dashboard



Project Introduction

- Railway Data Analysis Project

Objective:

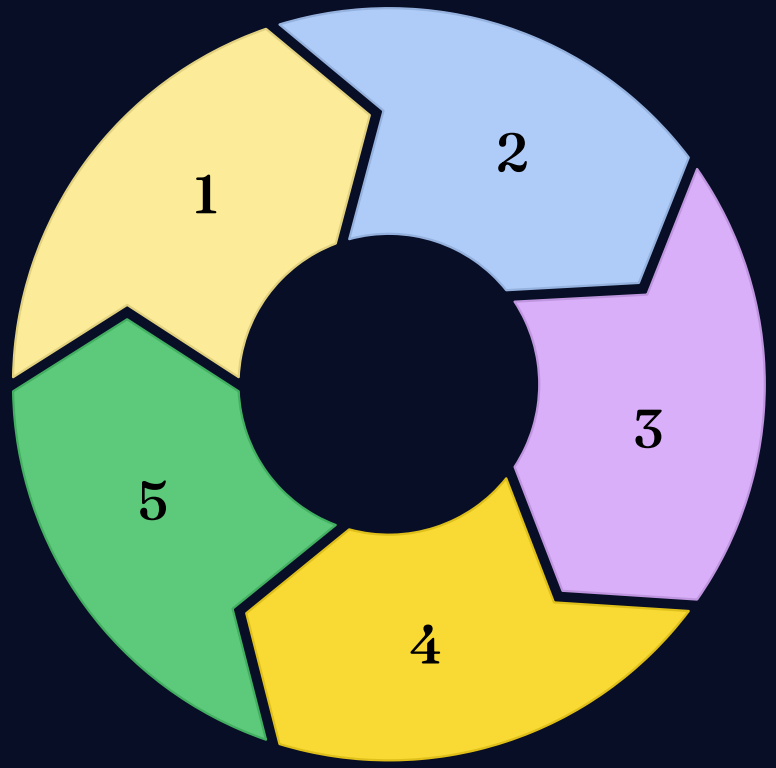
- Generate actionable insights and interactive dashboards.
- Identify key factors affecting train punctuality and reliability.
- Analyze passenger satisfaction trends based on available data.
- Provide recommendations for optimizing train operations and improving user experience

Project Life Cycle

GET DATA & Brainstorming

Data Source identification and Connection

Publishing and Sharing



DATA Discovering & Planning

ETL Process

DATA Modeling

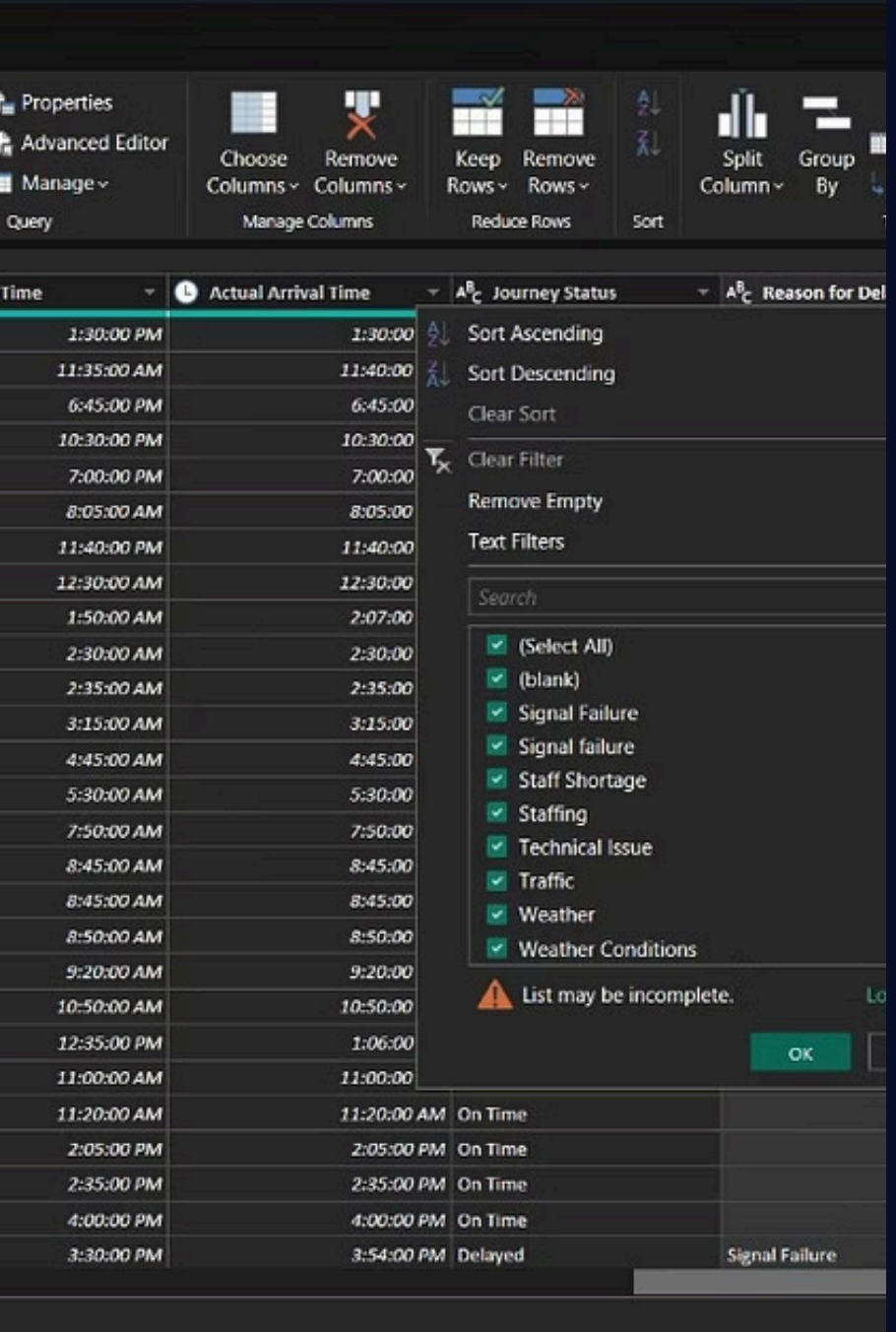
Visualization

Dashboard Design

Brainstorming Stage

Key Questions:

- Insights from ticket sales?
- Impact of delays and cancellations?
- Revenue trends?
- Best performing stations?



Data Discovery and Planning

Data Issues:

- Duplicates
- Wrong data types
- Empty rows

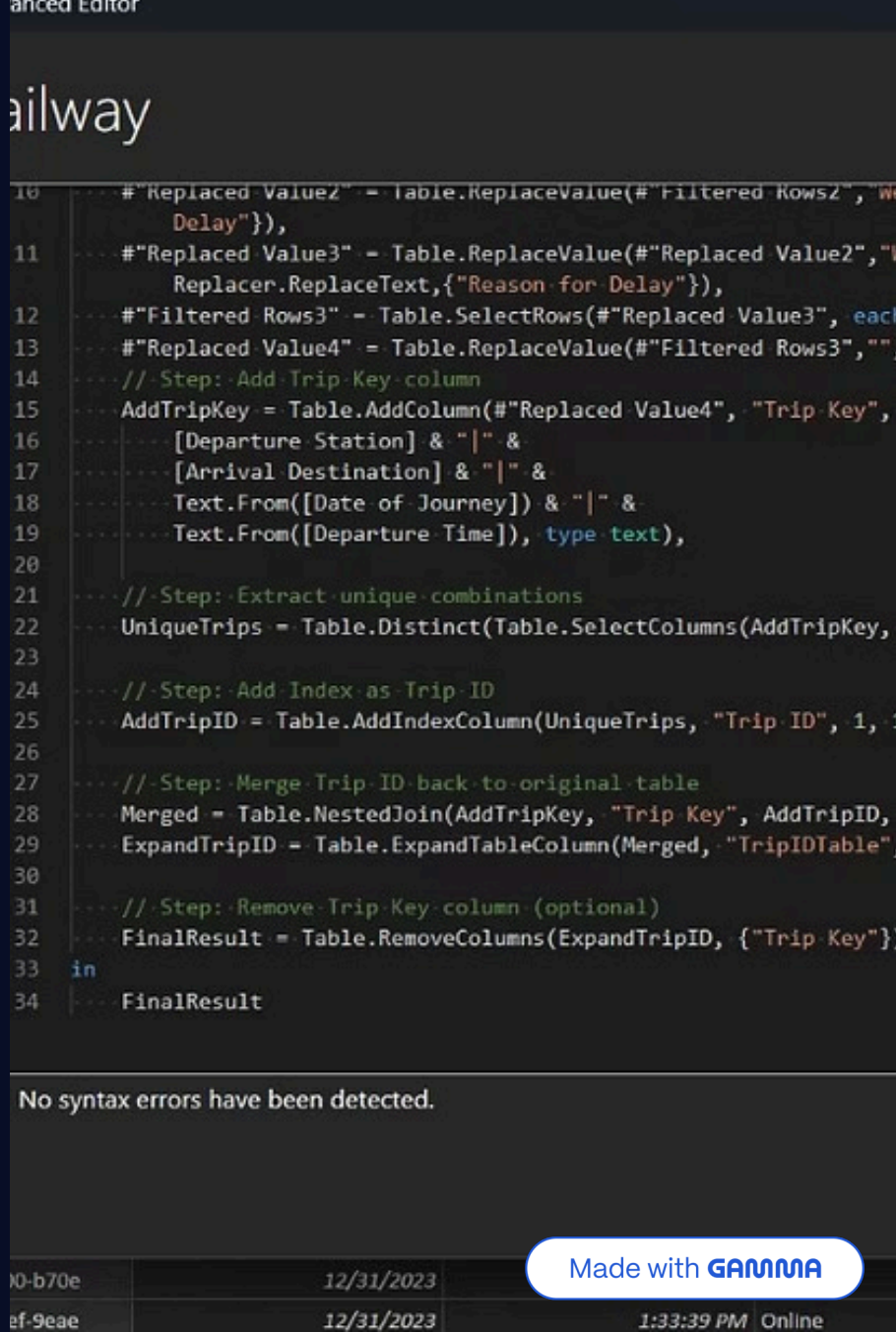
Plan:

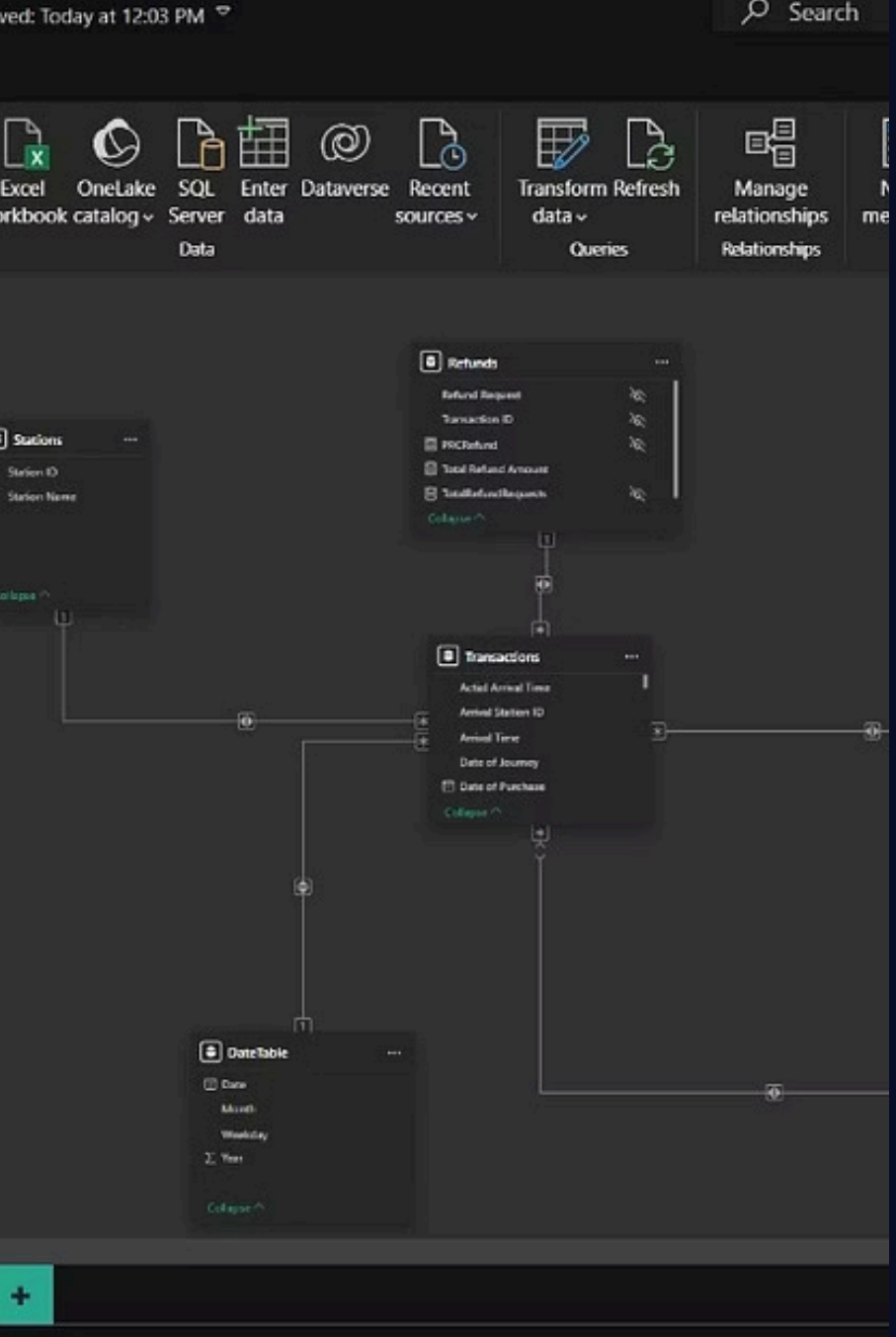
- Clean & transform data
- Divide tables
- Build model
- Design visuals

Data Cleaning and Transformation

Actions Taken:

- Removed duplicates
- Corrected data types
- Handled empty rows
- Created custom columns





Data Dividing and Modeling

Structured into:

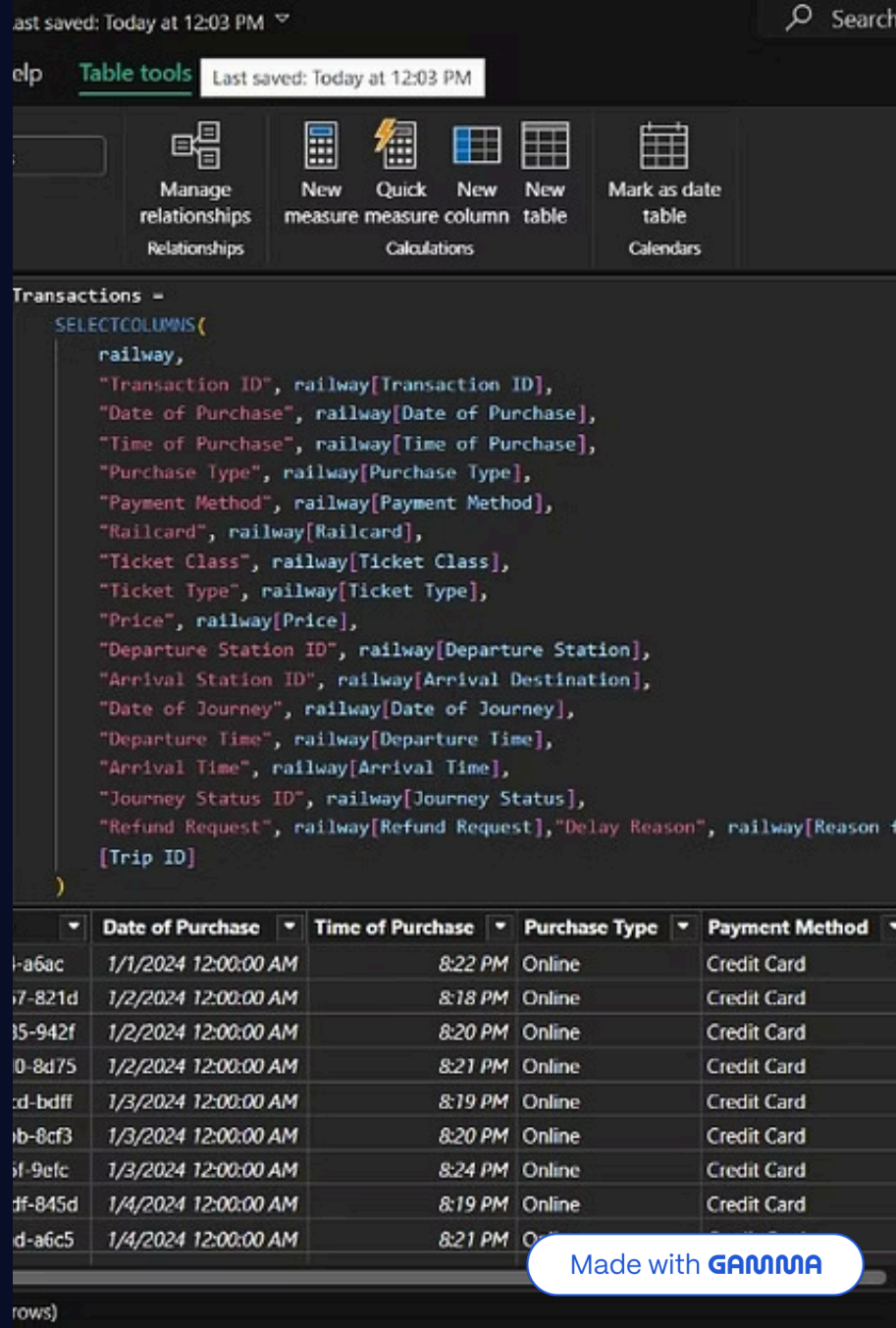
- Transactions
- Stations
- Customers
- Ticket Details
- Refunds
- Date Table

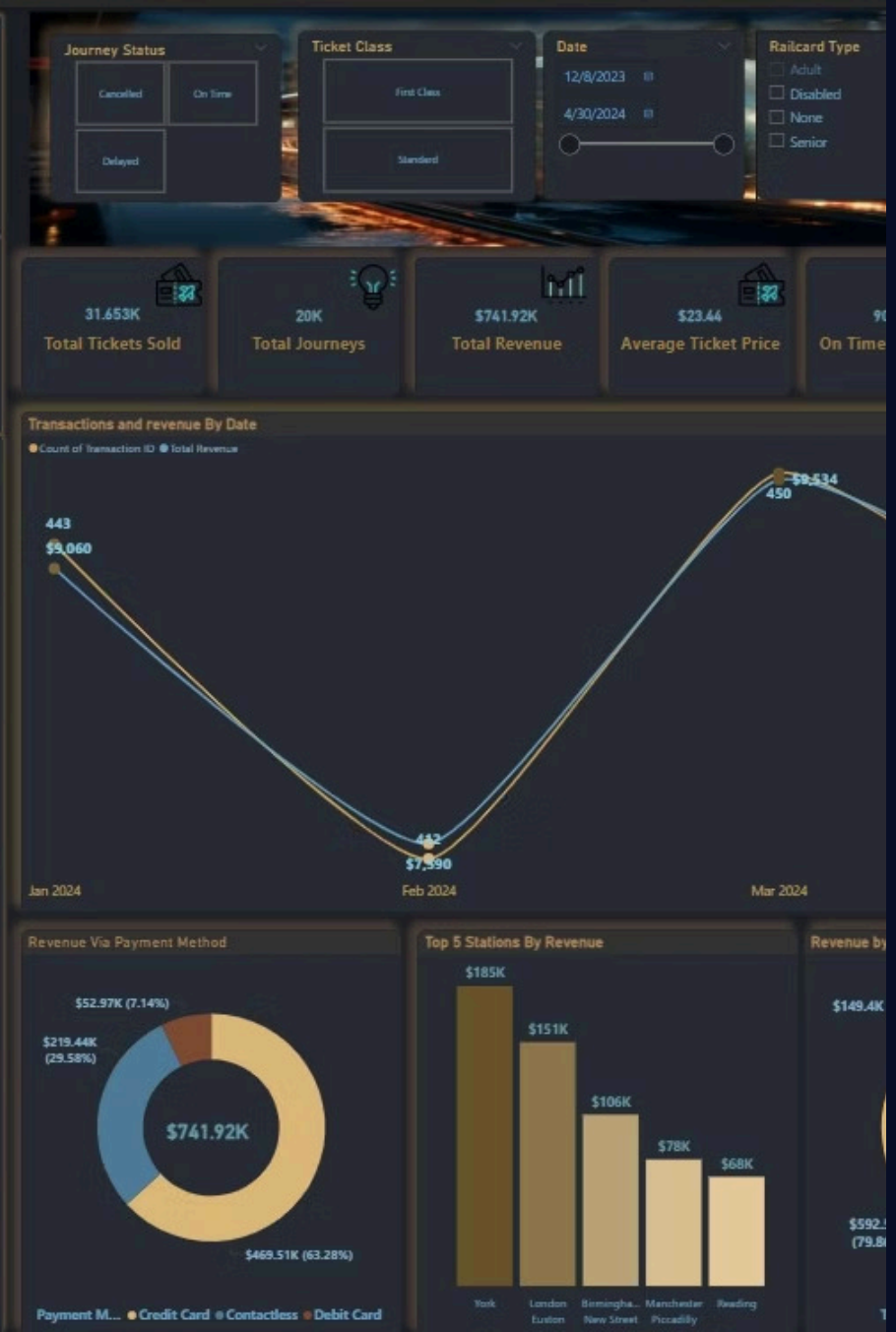
*** Created clear relationships for performance**

DAX Measures Creation

Developed DAX Measures:

- Cancelled Journeys
- Total Refund Amount
- Revenue KPIs
- Journey Performance Metrics





Dashboard - Overview Page

Key KPIs:

- Total Revenue
- Avg Ticket Price
- Tickets Sold
- Revenue by Class, Payment Method, Top Stations

Dashboard - Sales Page

Sales Deep Dive:

- Revenue by Ticket Type
- Top Stations
- Filters for Ticket Class, Railcard , Station

Dashboard - Journey Performance Page

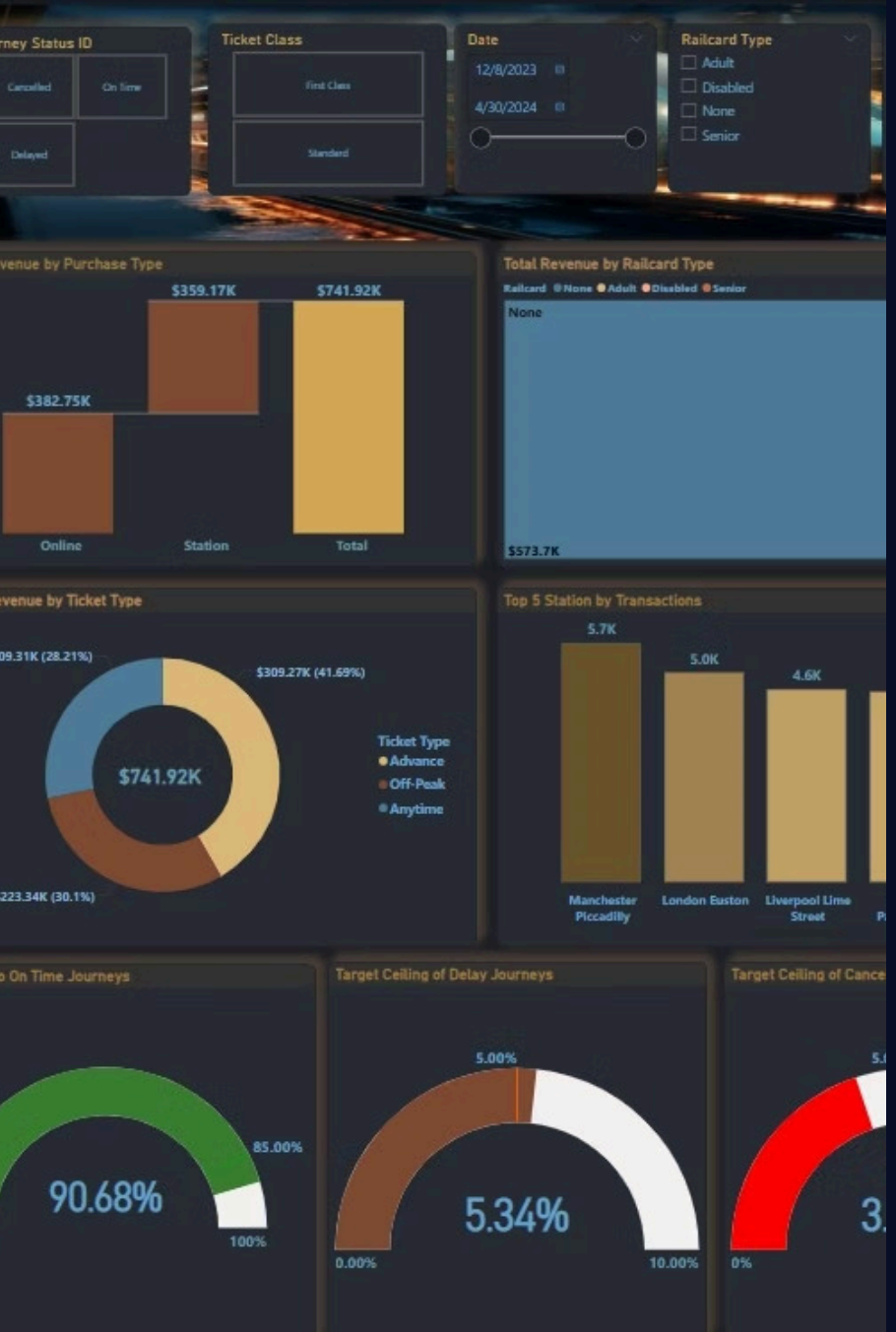
Journey Status Insights:

- On Time / Delayed / Cancelled
- Delay reasons analysis

Dashboard - Refund Page

Refund Analysis:

- Requests by journey status
- Refund % of total tickets
- Refund amounts



Dashboard - Customers Page

Customer Segmentation:

- Ticket Type
- Purchase Method
- Railcard Type
- Revenue contribution

Dashboard - Geographic Page

Interactive Maps:

- Journeys by Station
- Revenue by Departure
- On-time / Cancelled visual distribution

Actionable Recommendations

- Improve Delay Handling

Why?

- Some routes experience exceptionally high average delays (>500 minutes), which negatively impacts customer satisfaction and trust.

Action:

- Focus on these critical routes to improve efficiency. Prioritize addressing signal failures and staffing shortages by coordinating closely with operations teams.
- Boost Digital Sales

Why?

- Online purchases slightly outperform station-based purchases, suggesting a user preference for digital convenience.

Action:

- Launch targeted promotional offers and incentives for digital channels to further increase online adoption and reduce operational costs at physical stations.
- Enhance Railcard Adoption

Why?

- 77% of revenue comes from users without railcards indicating untapped potential in discounts and loyalty.

Action:

- Design marketing campaigns to encourage railcard adoption among seniors, disabled passengers, and frequent travelers to improve margins and customer retention.
- Reduce Cancellation Rate

Why?

- Cancellation rates are high in specific locations such as London Paddington and Manchester Piccadilly, potentially due to infrastructure or scheduling issues.

Action:

- Conduct a detailed investigation into these high-cancellation zones and collaborate with station managers to enhance reliability and infrastructure quality.
- Optimize Refund Experience

Why?

- Only a portion of customers request refunds after cancellations, which may indicate an unclear or inefficient process.

Action:

- Increase transparency around refund policies and streamline the claims process through automation and clearer communication channels.

Meet Our Team

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Thank You

*We appreciate your time and attention.